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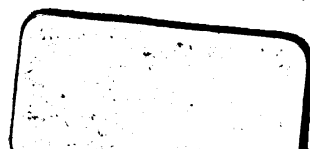
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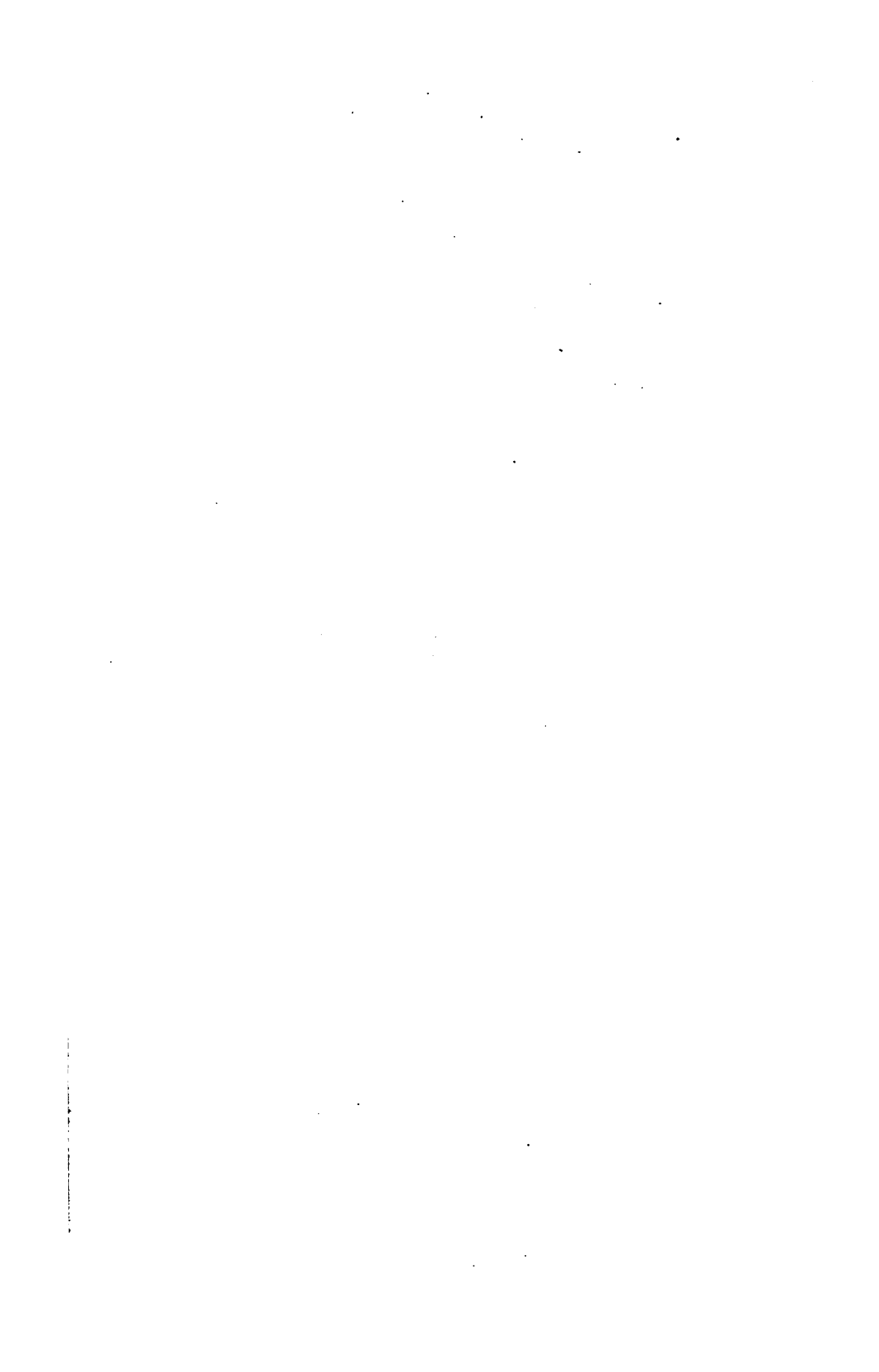
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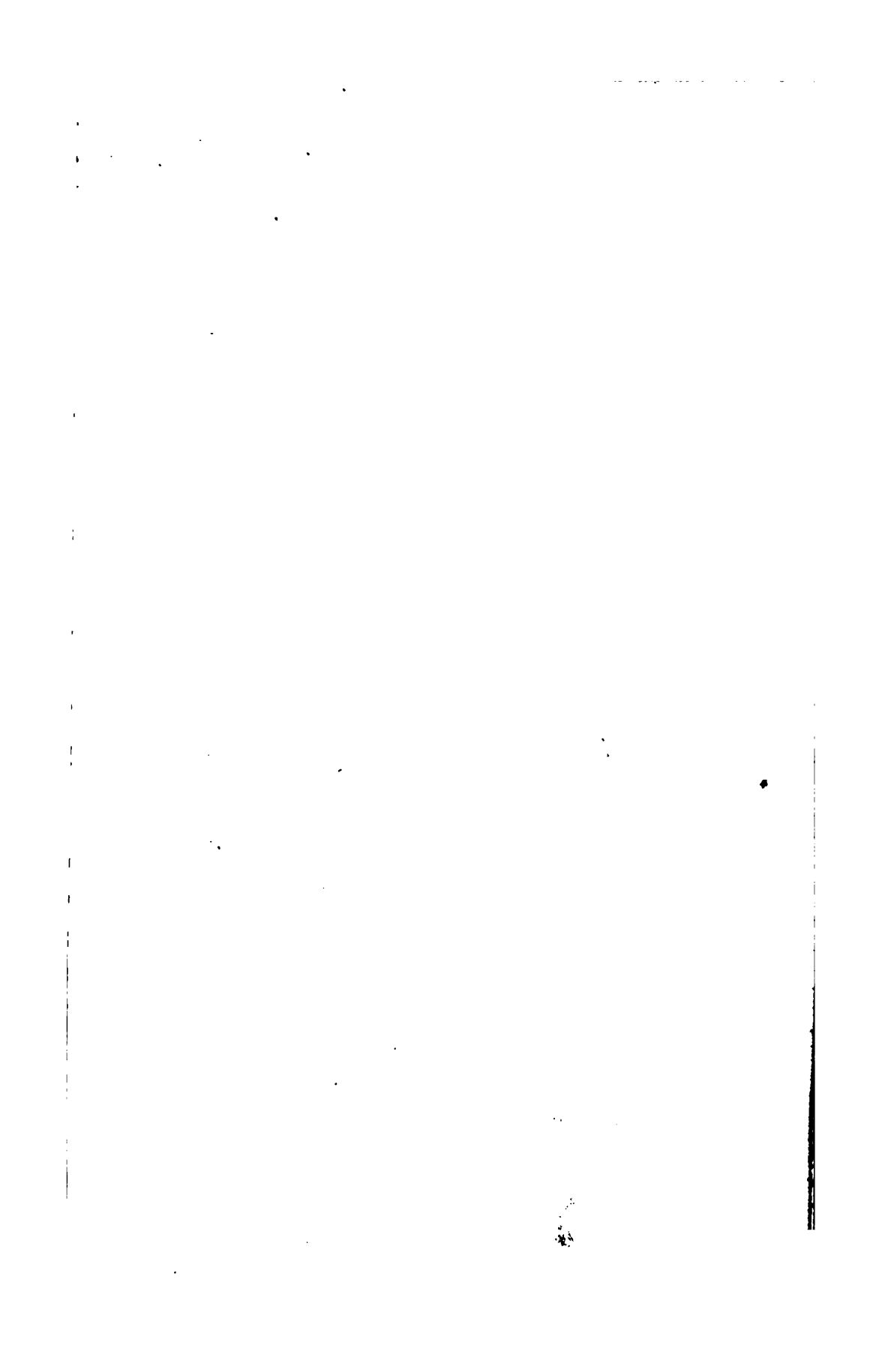
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# SOME MORE SCRAPS

ABOUT

## BIRDS,

BY

CHARLES MURRAY ADAMSON.



NEWCASTLE-UPON-TYNE:

PRINTED BY J. BELL & CO., RAILWAY BANK, PILGRIM STREET.

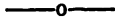
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ENTERED AT STATIONERS' HALL.

189. e. 226.



## P R E F A C E .



In my former Book of Scraps I suggested the possibility of my printing a Catalogue of my Birds, with the dates of capture, and some observations on the different species, their peculiarities and habits.

Having so many memoranda, and in such various forms, I was quite at a loss in what shape to put them even for my own reference, I therefore resolved to print them as they turned up, and my inability to arrange them must be my excuse for the unsatisfactory way in which they appear.

I must ask the indulgence of those who will be at the trouble to look into the book for the egotistical manner in which it is written, and I trust they will forgive me when they take into consideration the reason in a great measure of my having collected the scraps was originally for my own reference; however, at the same time having commenced printing, it seemed to me desirable (perhaps unwarrantably) to have a few copies struck off for the use of those generally who take interest in birds.

Having once begun to print and gone on by degrees the book has grown much larger than I originally intended. Having written it for my amusement, I will be amply repaid for my trouble if its perusal affords to those who see it an infinitesimal portion only of the pleasant occupation it has been



to me getting it under way. Nearly all the birds in the collection have been set up by myself from those I have had recently killed. I take little pleasure in having skins or set up birds I know nothing of the history of, as generally any you can get of these is unreliable.

I have lately amused myself with taking tracings from some of my drawings of birds to endeavour to make the book more attractive than it otherwise might have been, these I have taken from drawings mostly made at the time the birds were procured; perhaps I might ask that they may not be too severely criticised, as they are (as far as I am concerned) first attempts, and the work of an amateur. They have been lithographed by Mr. Andrew Reid of this town, and three hundred copies of them were struck off.

One of the autotype engravings was taken from some photographs taken from groups of birds I set up many years ago. Another, that of the Swans at their nest, was taken from a photograph taken in our garden by my son-in-law (Mr. Cross), and the remaining one was taken from a water-colour drawing. They were produced in London through Messrs. Mawson Swan & Morgan, of Newcastle.

I have had one hundred and twenty copies of my book printed, many of which have been promised to my friends.

*North Jesmond,*

*Newcastle-on-Tyne,*

1881.

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—o—

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Sparrowhawk and Sandpiper.



## BRENT GEESE AND OTHER BIRDS.

THE slakes at Holy Island are the winter feeding grounds of a great many birds in most seasons, but the quantities vary with the severity or mildness of the weather as well as the abundance or scarcity of food. Sometimes you see a black mass on the mud like a quantity of coal; however you are soon undeceived as the Geese utter their alarm notes, having already marked your approach, though still at so great a distance. As you get nearer you see the air filled with the large flock, almost like a swarm of bees, sprawling, as it were, in confusion. The tide having only recently ebbed they are hungry, and your intrusion only makes them fly over a large creek still filled with the tide; and not having been much disturbed at your presence, they allowed you to approach nearer than perhaps you expected. Look at them again and you will observe the whole flock with outstretched necks and still more so legs, all settle and begin to feed again.

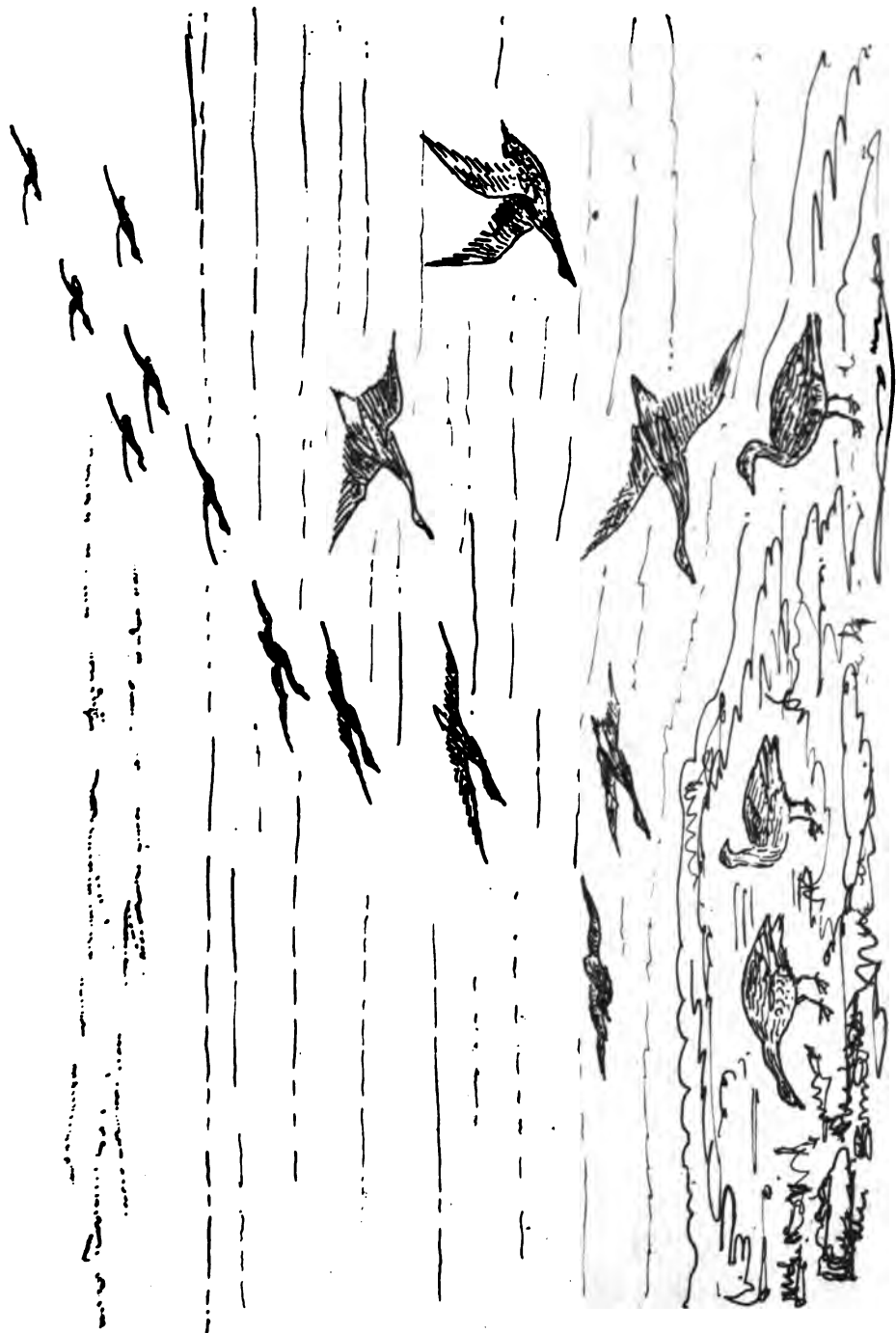
These Geese, when on the Northumberland coast, as a rule, pass the night on the sea; often in very large flocks. After daylight they come in to the slakes, sometimes in very straggling and small parties and gradually during the morning, and at other times in very large flocks early only. If not much disturbed they remain and feed all day, and towards sunset they again leave for the night for the sea. In the morning when they come in it is exciting work watching the flocks either from a boat or from the rocks. The flocks can be seen at a great distance, and the uncertainty is whether they will be too high or sheer off before reaching you; at first they look something like a small cloud of smoke, as they come nearer by degrees you can distinguish each bird, and at last, after waiting some time, they are over your head, and if not too high you may get one or more. I have seen the whole of them come out in the evening together, not in one flock but in many, of all sizes; most of the flocks being

in regular order, and at the same time keeping up a continual cry like *torock—torock—torock*.

It seems quite clear the dark and light varieties have nothing to do with the age of the bird, after once acquiring its full plumage, which it does the year after being hatched, probably moulting gradually its small wing feathers during the following summer, and the main wing feathers in the same manner and times as the older birds. The varieties are not confined to the sexes, as we have two precisely similar, except in size. The white mark on the neck is as conspicuous on the young bird on its arrival here as in the old birds. They are quieter birds than Bernacles, the latter while feeding often communicating with each other. The note of the Brent gander is louder and oftener heard than that of the Goose.

Wild Geese take a long time to eat sufficient to satisfy their appetites in consequence of the small bites they take of the water and other plants on which they feed. This causes Brent Geese often quickly to return to their feeding grounds, when left bare by the receding tide, after being disturbed, particularly in severe weather, and where, as is often the case, there is no other feeding place within a great distance.

Having often heard that stormy weather was the best for getting wildfowl, I, with two friends (both now dead), started for Fenham Flats during a severe storm of deep snow and hard frost. We certainly arrived at Fenham, but we found the snow, drifted and brought up by the tide, frozen so as to form a complete barrier to our reaching the slake from the land side. We, however, got across to Holy Island, and managed to get on the slakes, but it was frightfully cold work being on such an exposed place. There were thousands of Brent Geese but not many Ducks. We lay down on the mud, but to my utter disappointment, a new nipple having been put into a large gun I had, and having coarse-grained powder, though I had several good chances at the Geese, I could not get it to go off. We got some Pochards at night, and a Goose or two during the day. We had, however, had enough of it, and returned home as soon as the road was open again.







When crossing or going along such a dreary space of what appears to man a useless waste and mass of mud, one is apt to think of what use can it be to any living animal, where miles of mud are to be covered and left bare again in the course of a few hours. One thinks that even the fishes will not have time to spread themselves over the apparently useless mass. All appears still and inanimate. At length, however, the weak scream of a Dunlin is heard as one flies past and alights amongst a very large flock, which until it settled you had not observed, their colour resembling the mud. You follow up to look at the busy group, which, upon seeing you approach, take wing, as, being fine weather and there being no lack of food, they do not like risking your too near approach. Now a flock of Redshanks has passed you, and their exquisitely formed and coloured legs, fashioned according to Nature's own unerring taste and harmony, and their fine wild cry, have excited your attention, and made you desirous to follow further on the muddy waste and observe its inhabitants. You have now gone some way, and are surprised that at first the place looked desolate. In the distance you hear the *hor, hor, hor*, of the large Seagull, and you also hear a whistling noise overhead, and on looking up you see a flock of Scaup Ducks, whose quick flapping wings make this noise as they cut the air. Now you hear the continuous gabbling of the Brent Geese, and you are anxious to find out what bird makes the noise, and about a mile off you at last see a black cloud of them flying away, looking like a mass of mere black dots in the air. You will perhaps see a flock of Mallards also alighting in a creek filled with water, and see how they also stretch out their feet and double their tails under their bodies, so as to offer as much resistance in the water as possible, to enable them to check effectually their rapid flight. Nothing has often delighted me more than a ramble, either on foot or in a boat, on this place. What is more interesting than to see a flock of Wigeon playing on the water? The lively whistle of the drake delights one. Just look at them and see how they lash the water over their bodies with their wings. Now the flock

disappears under the water, you can hardly say dives, as they seem to go just under for sport. There goes a flock of short-looking Ducks, which, after looking at a little you again recognise as Scaups, speeding away high in the air, and who can tell where they may alight again. In all probability they will travel a hundred miles or more before again their feet touch water, on which they, I think, almost invariably settle. With such wondrous power of flight is it singular that man cannot follow them to their native haunts, and from which they are only driven by the severity of the weather and consequent lack of food.

When on these slakes I have often been surprised to see a flock of Sandpipers, which appeared so tame, and as if they could scarcely fly at all; but just arouse them once or twice, and if they do not at last show you the difference, by leaving you in the lurch I am mistaken. Should you really arouse them they very likely will not settle again in the same county.

Some kinds of Sandpipers you meet with are most uncertain in their movements. One day you may see plenty of a species, and the next none. They appear to shift their grounds very much with different states of the tides, whether good or bad, but sometimes with a similar tide two days in succession still there is a great difference in the numbers.

Redshanks and other birds are often scattered about all over, at other times you see hardly any; but perhaps when you do fall in with them you might think all within miles and miles had got into the flock. I have observed this with many birds, particularly Dunlins, Knots, Redshanks, Ring Dötterels, and Godwits; but why they either congregate or separate I cannot conceive, because the same thing occurs in fine weather as well as the reverse.

There are three kinds of our common waders which fly in similar flocks, and at a distance it is not always easy to know one kind from the other, although they differ greatly in size when seen near, these are Godwits, Knots, and Dunlins. On extensive mud flats, in winter, when congregated in large flocks, at a

distance they look much alike, and sometimes they fly in huge flocks, and wheel and turn in a similar manner, and sometimes you would think all the species within miles had congregated together for the time. You sometimes see flocks of Godwits, Curlews, and Plovers flying, which in the distance look like Geese and Ducks, a portion of the flock being often in regular order.

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#### ON THE CHANGES IN THE PLUMAGE OF BIRDS, CONSEQUENT ON THEIR AGE AND ON THE SEASON OF THE YEAR.

I WILL begin with the bird on its being hatched, at which time it is clothed with down only ; but I am not prepared to say whether even at that early age the rudiments of the feathers are not in the skin and ready to commence growing, in order that no time may be lost in the bird being sufficiently able to take care of itself in the shortest space of time. This is especially essential in the kinds which are bred in high latitudes, where the time the insect life, on which almost all kinds when young feed, is so short, but at the same time so abundant while it does last.

Now the feathered states I am about to notice in most kinds of birds may be divided into three separate and decided plumages, none of which are permanent for any great length of time, and the alterations appear sometimes to occur by the fading and wear of the feathers only, and at other times by moulting. These three states of plumage are first, the young of the year ; second, the winter plumage ; and the third, the summer or breeding plumage.

These remarks relate chiefly to those kinds of birds which arrive at maturity not later than the following year after being hatched, but not to some of the larger Gulls and such other

kinds of birds as take longer in arriving at maturity, but which species are comparatively few in number, and even in these, after the moult the autumn of the year after being bred the same kind of moult is repeated at the same season of each succeeding year, and the mature plumage is nearer approached each year till the full plumage of the species is acquired ; after this the chances are, no variation except that caused by the seasons will appear annually. Perhaps there are fewer species which do not acquire the mature plumage the following autumn in a wild state than is often supposed. I think all our Ducks and Geese do so, but the large Gulls, Cormorants, Eagles, and some others may take a longer time.

As I have already said the first of these three plumages is the young bird so soon as feathered and capable of flying. In some kinds it would appear that the down is only the commencement of the first feathers, as it is sometimes left on the ends of the feathers for some time after they have grown to their full length. I may here remark that this first or young plumage is generally the most uniform the bird is ever in, as all the feathers commence to grow at the same time, and in consequence they all fade in the same degree, and the longer the bird wears them the more faded they get ; but still the bird is uniform in appearance until it commences to get new feathers. It seems almost needless to remark that the birds never have this plumage again, and that some kinds only retain a great portion of it for a very limited time, as almost as soon as they have acquired it they begin to moult to their second or winter plumage.

The second of these states of plumage is that of winter. This is acquired by most kinds of young birds of the year by a partial moult only, but in others by a complete change of feathers, similar to that of all older birds by the general autumnal moult.

The third of these states of plumage is that from winter to summer or breeding plumage, and which is most commonly

acquired by the kinds of birds which arrive at maturity the year after being hatched, but amongst some kinds to a greater or less extent often unaccountably, both as to time, intensity, and quantity of colouring, and apparently in some whole groups by the simple wearing and fading of the feathers only, and not by any moulting.

After a bird has once acquired its breeding plumage, the change in autumn by moulting to its winter plumage, and its acquisition of the breeding plumage the following summer, seems to go on with great regularity, and perhaps more uniformity in the individual's colouring each year than is generally supposed.

I am quite aware I have undertaken a most difficult task, and that very much in the dark. The fact is most species move about so much, and so mysteriously, it is not possible to get them at all seasons to observe the changes taking place satisfactorily, and therefore I have been obliged to notice more particularly those species we most easily come across.

Having treated the subject so far as a whole I must now try to illustrate these three changes of plumage as they affect groups, as in the Game birds, Ducks, Waders, Gulls, etc., and also as they affect the different kinds comprised in these groups. I wish to make my observations as practical as possible, and to avoid scientific phrases and terms which may not be generally understood, but I fear, however anxious I have been to stick to my particular subject, yet other observations on the habits and structure of the birds have crept in as they suggested themselves to me at the time of writing.

#### THE CHANGES IN GAME BIRDS.

I will begin with Game birds, though they form rather an exception to my theory, as the young fly before arriving at their full size, thus differing from the generality of birds. It would seem Nature has arranged that the little Partridge should be able to fly almost as soon as it leaves the egg; probably its tiny

primaries and secondaries have begun to grow when it was in the egg. Of course large feathers would be dreadfully in the way to such an atom, but it certainly soon gets such wings as enable it to fly. Well, its body begins to grow and get heavier, and, in consequence, it wants more power to lift it. Before this, however, matters have been arranged for it without its taking any thought. Out comes one little feather on each side, and another rather larger than it begins to grow at once; so soon as it is partially grown out comes the next on each side, and so soon as they are partially grown the same process goes on till it gets a new set of wing feathers in comparison to its increasing weight. No sooner have these all grown, but perhaps before they have, a new set has in like manner begun to grow; and so a constant change is going on till the bird gets to a fair size; then the final moult of the quills and tail takes place, at which time both old birds and young get their complete new set of feathers together, and after October the old and young are alike and not distinguishable by their appearance, except in the colour of the legs, which are clay-colour when young, and finally change to bluish grey. At the last moult of the quills it is surprising the regularity with which the change takes place, all old birds moulting at the same time and in the same regular manner, and all the early-hatched young birds moulting their quills in regular order and at the same time as the old birds. After the young once acquire their full plumage in autumn of the year they are hatched in this class of birds, they and the old birds are similar in plumage at the seasons for the rest of their lives, except the Ptarmigans and perhaps the Red Grouse. The changes in the young of the Pheasant and domestic fowls are precisely as the young Partridges, but the Quail seems to be a sort of connecting link between the Partridge and the Rails. I am not aware whether like the former it gets small flight feathers before attaining its full size, or whether like the latter it does not get any flight feathers until of full size. Has any one observed this? From the similarity in shape of the wings it would point out its affinity to the Partridge in this respect.

There is often considerable difference in some nearly allied species as to this what I call winter plumage which requires notice, as in the Ptarmigans and Red Grouse, but I anticipate a similar change takes place in the two species' condition, which causes the change in colour from that in spring to what I call the summer or breeding plumage, but only that the change is not so apparent; but how this change in the Ptarmigans is caused, whether entirely by moulting or gradual change of colour in the feathers, even whilst they are growing, is, I believe, to a very considerable extent, unexplained. When on the subject of the change in the colour of the feathers of birds I might remark the pink blush observable in the Norwegian Ptarmigan just before beginning to acquire the dark or summer or third plumage. Can this be caused by the change in the condition of the bird, and be the commencement of the change in the coloration of the feathers? There cannot be any doubt but that the Ptarmigans assume the white plumage in winter for their protection. Even in the Partridge, though I think it has no spring moult, a great difference appears to have taken place in the colour of the feathers between the time when the bird acquired its full plumage, which may be called its winter dress, in October and September the following year, more particularly in the hens, many of which have some feathers in the neck and breast resembling those of the Grouse, that is pale brown, with larger dark brown marks, quite unlike any feathers you see in them when just having acquired their new plumage in October, the previous year.

Game birds, as the Grouse, although subject to a partial moult in spring, do not lose their larger wing feathers till late in summer or the autumn, whether young or old; the young birds of the year have these feathers renewed at the same time as the old birds in autumn, or soon after them, according to the time of their being hatched. All shooters either know, or might know, that the flight feathers of the young Grouse and Ptarmigans are mottled with brown till they change them in autumn to those of the old bird.



These foregoing remarks relate to Game birds only. It is quite different with Hawks, Eagles, Owls, Swans, Geese, Ducks, Sea Fowl, Waders, Rails, and small birds, all of which are quite unable to fly until they get to their full size. In all these the quills come only once during their young state, and in all these birds, except in some small birds, these quills have to serve the bird till over winter, and until the general moult, late the next summer or autumn, some birds moulting gradually during the summer; but whether they moult gradually during summer or suddenly in autumn they acquire a full plumage before their second winter, and in most cases that of the mature bird. It seems probable it would be undesirable and inconvenient for the young birds of the year of many kinds of birds, particularly those having to travel long distances in search of food in autumn, to be moulting their large wing feathers at that season, as the Game birds do, which, however, do not migrate nor are obliged to take very long flights to procure food. The young of the year of some kinds of small birds, however, undergo a complete moult before winter, as the Larks, Starlings, and some others. These seem to acquire their mature plumage the first year, but the moult is generally completed by October, so that they can migrate previous to winter if necessary.

#### THE THREE CHANGES IN DUCKS AND GESE.

It really is most difficult to take any single kind of bird as a general example of a genus or group, as each kind has its special peculiarities. Now, I say, if I take the Sheldrake for an example of Ducks and Geese, you might say it differs from most Ducks, on account of the drake and duck resembling each other in distribution of colour, and in the drake not changing his colour in summer, as most true Ducks do. The Sheldrake, however, belongs nearly as much to the Geese as it does to the Ducks, being a sort of connecting link—his scientific name (*Tadorna Vulpanser*) long ago given shows this; but, as an illustration, the actual moultings and time of arriving at maturity

are pretty much as the Geese, more so than to the Ducks, but I class them all together as belonging to the same extensive group.

As to Ducks, Geese, and such like birds, we will take the Shel-drake for example. The young when just feathered are in their first or young state of plumage; they are greyish white and dusky, something resembling in colour their downy state, the drakes the larger, with longer necks, and rather brighter in colour generally. They commence to moult to their second or winter feathers in September, and gradually acquire the distinguishing marks of the old birds, though weak in colour, before the year's end. The moult is partial only and very gradual; all the wing feathers are retained till the following autumnal moult except the tertials. Some tame birds we have only moulted a portion of their tail feathers the first autumn, the renewed feathers being much larger than those cast, and having the black tips of the mature bird. In the young or first plumage the primaries and secondaries are edged with white, which in the latter makes a decided edging, even when the wing is closed. After the next moult the following autumn, when the birds acquire their full plumage, the white edging on the secondaries disappears in both sexes, but the ducks retain some white edgings on the primaries, the drakes losing the edging entirely. It is curious the difference in size of the young bird's first quills and those which replace them when cast the following autumn, each new feather is so much longer and broader and darker-coloured; the first feathers not nearly reaching to the end of the renewed tail, those afterwards got extending much further than the end of the tail, and giving the bird a much larger appearance altogether. The young of the same hatching moulted irregularly, some much earlier than others, but, in common with all other Ducks, Geese, and Swans, they retained all the wing feathers except the tertials till the general moult the following autumn. When they cast their wing feathers they have a very bare look, and these are often found lying altogether. Very soon after they are dropped the new large wing feathers appear in rows as stub feathers, cased in blue skin, which peels off as they grow, and it is unne-

cessary to remark that when these wing feathers are cast the birds are totally unable to fly for about a month whilst the new set are growing. In this species it is easy to see the wing coverts are retained till the next autumn, as they continue dusky-coloured, the new feathers being white, those of the mature bird. During the time Sheldrakes are unable to fly they would seem to be in a worse position than Ducks and Geese at inland places at fresh water, where they hide amongst the weed and herbage; but they differ from Mallards and others in not losing their piebald colour at the end of summer, there being other means for their escaping from their enemies pointed out by Nature than skulking amongst herbage and weeds during the time they are unable to fly. The drakes make a whistling noise, short and frequently repeated, often throwing up their head at the time; the duck utters a hoarse croaking quack, also repeated quickly, and often also a purring noise. One of our Sheldrakes, although perfectly tame, on getting its wings after moulting, flew quite away the first time it had been observed to fly, and never returned. Probably it was soon shot; but still it was curious it should go quite away and leave its companions so suddenly, when so remarkably tame. I have known others do the same if their wings were not attended to at moulting time, and if not pinioned. How admirably the Sheldrake's beak is formed for the purpose required; it is turned up at the end to enable it to sift the wet sand, and gather its food from it readily. I do not think Sheldrakes breed the first summer after being hatched, as they do not get their full plumage till the following autumn; but if they do not what becomes of the immature birds during breeding time, as they seem not often to be seen in flocks during summer; neither do, I think, Mergansers, and probably other Sea Ducks, and perhaps Wigeon; but young Mallards seem to acquire their full plumage before winter, and most probably all breed the following year. It may be some early-bred Wigeon arrive at maturity the following summer and breed, but certainly the young drakes without the white wing patch, the sign of maturity, are often found very late in the spring, and they may be

non-breeding birds left after those intending to breed have departed.

The Eider (though a Sea Duck, like the Sheldrake, but yet far removed from it as a species) builds its nest amongst the rocks, and not in a hole as the Sheldrake. We see the female is obscure in appearance so as to render her inconspicuous when sitting, like most of the fresh water Ducks. The Golden-eye Duck, though it appears to breed in holes in trees, out of sight, is not similar to the drake, like the Sheldrake, so that the rule does not hold good in all cases. Though the Sheldrake does not alter its plumage at the end of summer the Eider drake does, but only by becoming more or less mixed with black feathers, which were white when in full plumage. This at any rate helps to make him less conspicuous when his quills are cast, and at that season, as he is in the moult, he is useless to man if captured. The Eider seems quite at home and at his ease even without his wings; it often prefers diving and swimming, when his wings are perfect, to escape. No waves seem too strong for it not to be able to dive through; though it may be turned over and over and over again by the broken water, still it will persevere and get through behind the broken water often without attempting to use its wings.

I should observe that the old males of most of the Ducks differ in their plumages from the Sandpipers; the latter moult to a plain plumage, which becomes brighter towards summer, whilst many of the former moult to their beautiful plumage in autumn, but which becomes shabby as summer advances. Though this is so we must still consider the autumnal moult as that to the second or winter plumage, notwithstanding the great difference in appearance, as otherwise no system of change as a whole can be followed; but at the same time it may be remarked that the change to summer plumage in the Sandpipers is not generally confined to the sex as with the ducks, and I think the cause of the drake's change in late summer is accounted for.

I ought to remark that the Sheldrake acquires no change to a

summer plumage, the beak and feet, however, assume deeper colour, the former having a large fleshy carmine protuberance at that season only.

In the Geese and Swans no additional or change in colour is acquired in summer further than what occurs by the wearing of the feathers.

In the young drake Wigeon, as I have before remarked, the change of colour in the lesser wing coverts to those of the mature bird is the last acquired, as also in the Gadwal, the chestnut feathers in the latter and the white in the former coming only when the bird has arrived at maturity. In the first plumage of the Shoveller the lesser wing coverts come blue when it is first feathered, as in the mature bird. In the young drake Teal they are also like the old bird. The young of all these and the allied species renew the tertials when acquiring their second or winter plumage, but none of them the other wing feathers till the following autumn. Old drake Mallards and Wigeon, and all nearly allied kinds, have often completed their full, or what I must call winter, plumage by November; as soon, however, in summer as the ducks have young they commence to loose it, and gradually become like ducks, by, I think, a partial moult after their full plumage has got much faded, and which plumage I must call their summer plumage, as it is retained till the autumnal moult is completed in October.

The Brent Geese and Bernacles we have kept tame gradually moulted throughout the summer except the quills, these were shed altogether on the 6th and 7th of July. The first were cast on Sunday morning, and on Tuesday they were all without wing feathers, and it took a month from that time for them to grow again. It is curious how very soon the row of blue stob feathers are to be seen. Although they moulted through the summer the moult was not finished till the quills came again, which were nearly complete by August, this moult would have to be considered as that to winter plumage. I may add that, although they were pinioned, during the time they were in their naturally (as well as artificially) helpless state they never came far from

the water edge, being apparently instinctively aware of their natural danger of not being able to fly; though when not moulting their wing feathers they often come quite away from the water. About May both kinds become very restless, apparently wishing to migrate. They got on to the highest ground, and ran along, trying to fly. This they repeated many times, and for several days in succession. How wonderfully Nature has arranged their time for renewing their wing feathers, which corresponds exactly with the time these fine species arrive at their breeding grounds in the Arctic regions, having been found to arrive in June. By July the eggs would be laid, and by the time the old birds had acquired their wings again the young would be also ready to come away. No other season would have suited them to moult their quills, neither would it have answered had they not been cast altogether, which seems to be on purpose to save time. So soon as the young are able to fly well the old birds are also, and the places they breed at must be left, and from that time till their arrival at their breeding places the next year it is of the greatest importance they should be able to travel any distance in search of food, and be able to meet any emergency caused by such weather as they are likely to meet with during migration as well as in winter. In the Bernacle and also the Brent Goose, in a wild state, as well as in many kinds of birds, sometimes may be seen some feathers which have not been cast at the proper season, and which have apparently to last the bird till next moulting time. When such occur the colour has changed in these kinds from black or brown to reddish or rusty brown. This is probably mainly caused by the exposure to the climate in which they have lived.

It seems most difficult to ascertain whether the Brent Goose and many other species of birds of this tribe breed the year after being hatched. Up to the time they leave us the young birds of the preceding year still have the edged wing coverts of the young birds. In January, 1878, I found the young Brent Geese of the last season still had their tails of their first feathers, some had changed the two centre feathers only, to those of the

mature bird. This is easily seen by their greater size. Now do birds in this state breed? The only way to ascertain this would be for the Arctic voyagers to see if any killed at their nests still have these edged secondaries, which probably by that time would be very nearly worn to threads. If they do not breed where do they pass their time, as we never see them at the time they should be breeding. It seems probable the Scoters often seen in summer in flocks on our coast are young birds of the preceding year and not breeding birds, but which would acquire their full plumage the following summer and autumn; but still why are not more of the non-breeding birds left during summer of many species than there are, if there are many of them. Probably they may be dispersed over a great extent of country.

It seems curious why young drake Wigeon and Teal and other birds are so very tardy in acquiring their full plumage. They often evidently get a new set of body feathers, their second or winter plumage, in autumn thicker and closer than their first plumage, probably to enable them to bear the cold; but why are these renewed feathers not in the drake's distinguishing garb, only a few freckled feathers often appearing amongst the brown plumage till spring, denoting their sex, and after all the drake Mallards have acquired their full plumage, thus showing how difficult to explain are Nature's arrangements.

I do not think any one yet has ascertained whether the feathers of these immature Wigeon and Teal, and also Pintail and Gadwal, change colour or not. Certain it is you see them in autumn and winter in all states of change in the individual feathers, sometimes brown with a trace of grey, and sometimes grey with a trace of brown, looking precisely like what one might expect to see, if it was ascertained as a fact that the feathers did change their colour either whilst growing or after they have grown.

In the Mallard the drake drops his quills before the ducks, and he is often able to fly again by the end of July, but he is then in his brown plumage, or what I call his summer plumage, which he retains till towards October, when he again is in full feather, apparently by a double moult, having lost his fine

plumage in June. I think the reason of this is to render him less conspicuous during the time he is unable to fly, and when, to escape from his enemies, he has to do so by skulking and hiding. The moult also takes place when food is most abundant, and he has not far to travel to obtain it.

So far as one can judge from domesticated Wild Ducks the time the Ducks drop their quills depends on the time they have brought up their young. If they get the first away all right they moult early, but if not they do not moult till they have reared their second lot.

I do not know whether this is always the case but the drake Swan seems to moult his quill feathers earlier than his wife in a similar manner to the Ducks.

There is a great difference as to the time requisite to enable young birds to fly, and to be able to subsist without their parents. The young Swans, Geese, and Ducks seem to take the longest times in being able to fly. They lay many eggs, sit long, and the young do not fly till fully feathered, and they grow slowly in comparison to some other kinds of birds.

The truly wild Mallards, as a rule, lay in April, hatch by the middle of May, and the young fly a little by the latter part of June, if all goes right; if it does the duck does not lay again. She lays seven or eight eggs, taking a week, sits a month, making five weeks to get the young hatched; and it seems to take altogether from eleven to twelve weeks before the young fly and separate from the old one, unless they are much disturbed.

Young Ducks after their downy state get clothed with a sort of hairy coat as they grow, and when about a fortnight old are more like seals than birds, so admirably adapted is their covering for their protection from the water in which they almost live without ever wetting their skins; but it is surprising how soon they succumb when they accidentally get into water, from which they cannot easily, from steepness of the banks or other causes, get out. They seem not to have the sense to try a new place,



but exhaust themselves with repeated attempts, although the place they try is hopeless for them.

One circumstance to make up for the length of time it takes the young Ducks to grow is they very soon are quite independent of their parents, and in swamps are no doubt quite able to do without them during the time they are unable to fly, should it be necessary for them to have to do so. The Ducks only rear one brood in a season, but generally a fair-sized lot, to make up for casualties.

One thing which makes me think the feathers change in colour during their growth is I have seen the young Goosander in March with moulting feathers partly ash-coloured and partly black; the ash colour showing the plumage of the bird when it commenced its moult, the black the colour the feathers would be required to be on the bird's complete moult to its full plumage. These are, I think, undoubtedly young of the preceding year, and which would acquire their mature plumage on the completion of their moult the following autumn, the feathers all at that time, though acquired gradually during summer, being of the proper colour by that time. I have also seen the immature Long-tailed Drakes in March and April moulting to their mature plumage when the feathers which come over the wing and are white in winter in these birds were piebald, as if changing during growth to the red and brown, the mature bird's full plumage of summer; and, most probably, had these birds lived, by the time they got through the moult, they would have been in the uniform plumage required by the bird at the season. It almost seems more probable they do change colour during their growth, as during that time the feather is fed by blood from the bird, and it is likely the change in colour is produced by the condition the bird is in at the particular time the moulting is going on, that is in spring and autumn, that is presuming there is such a change in the condition of the bird during the season. Supposing it had lost its summer condition entirely, when it began to moult the feathers would come winter plumage, but if the bird commenced to moult before having entirely lost its summer con-

dition, the feathers would begin to grow as in summer, but gradually change as they grew, according to the alteration in the condition of the bird. I do not see anything very much to be wondered at in a bird's feathers changing colour during growth consequent on the state of the blood of the bird at the season. The stag's horn during growth is nourished from the blood of the animal so long as is requisite, and no longer. As the blood ceases to flow the veins dry up, and the dead skin falls off. It seems almost unnecessary to remark that the corrugations on the horn are caused by the channels in which the blood flowed.

#### THE THREE CHANGES IN WADERS.

All the Sandpipers, Curlews, Godwits, and Plovers on being hatched are covered with down, and are lovely little creatures, varying in colour from yellow, as the Golden Plover, to rich brown, as the Snipe and Dunlin, and grey or dusky, as the Curlew, Pewit, Ring Dotterel, and Common Sandpiper. This down is rapidly pushed out by the first feathers, which commence growing almost immediately, and you sometimes find portions of it remaining on the end of the quill of some of the small feathers, sometimes after the bird is able to fly. I have seen it quite long in the Oyster Catcher even late in September on the end of the tail and other parts. I have seen it on the Sanderling, Pigmy Curlew, Knot, Great Snipe, and Common Godwit (but on the small feathers on the legs only of the last four species), notwithstanding the amazing distance these birds had flown since they were hatched. After these kinds of birds are fully feathered, which they are in about six weeks, or even less, from the time of being hatched, they are capable of flying any reasonable distance.

Their next change is to the second or winter plumage, which generally much resembles the old birds at that season, but the old birds acquire their winter plumage rapidly when they begin to moult and their autumn moult is complete, every feather being renewed, but gradually, so as not to prevent each bird of this tribe from being able to fly. In consequence, when you get an

old bird in winter it is known by the regularity of its grey plumage, the tertials and small wing feathers corresponding with the back feathers, which is not the case in most species in the young of the preceding summer of this tribe.

Young birds seem sometimes to moult gradually as new feathers are required, and some nearly allied species as well as individuals of species retain some of their young plumage much longer than others. By the following spring, or even in winter, many look like old birds, but on examination the wing coverts, and generally the tertials, show the edging or spotting of the first feathers, and the flight feathers are rather smaller.

The second stage, or winter plumage, of Waders is generally of a sombre hue, probably intended for their concealment and protection. (This is not so, nor is it requisite, in the Woodcock and Snipes, which do not change the character of ground on which they live with the seasons, but they retain their bright colours, to render them less conspicuous when amongst grass, rushes, or ferns); but the Brown or Grey Snipe, a common American bird, rarely killed in Britain, whose habits in winter are similar to those of Godwits and Sandpipers, has similar changes in plumage to them; the affinity between this Snipe and the Godwits is that they frequent mud flats (except at breeding times), and are then clothed in white and grey, but when they breed, which is generally at inland places and amongst scrub, they get the peculiar plumage mixed much with red and black, which probably assimilates them to the ground on which they have to sit and also to rear their young.—This is, however, not universally the case. The Golden Plover in summer becomes much more conspicuous, and the black breast margined with clear white renders him an object easily seen. In this species the male is the finer-coloured, and it may be he is so to attract attention from the female while either sitting or engaged with her small young; and it would almost appear that this was Nature's intention, so assiduously does he manœuvre and puzzle you, but at the same time the nest is generally so cunningly placed that it is not an easy matter to find it, and the young in the rough mosses where they gener-

ally build are pretty safe so far as man is concerned, but Nature did not take into consideration that he was its only enemy, and probably some other necessity had to be provided against. There is something peculiarly touching in observing the Golden Plover during nesting time, the plaintive cry and circuitous flight round you, and settling on a hillock and looking at you, and the note again uttered, puzzling you whether it came from the same bird. I remember when a child seeing a Golden Plover's nest near Otterburn, the young in which were just coming out of the eggs; it was placed amongst heather much mixed with the greenish-yellow moss so common at their breeding places. The young were scarcely distinguishable from it until looked at more closely, when the yellow down seemed far brighter. Evidently the young are so marked for their protection. When writing about this species and its colour as a protection it calls to my mind something which happened long ago. I was driving with the late Mr. W. Brandling to Prestwick Car to shoot, when, in passing, we saw a large flock sitting a longish shot from the hedge. We went on to the end of the field, and as they took no notice of us when we got out of sight he pulled up and let me out. I loaded my gun with cartridges and crept back to opposite where they were sitting, and shot at them through a small hole in the hedge, which being very thick made it impossible for me to see much; however I got over the fence as soon as I could find a place where I could, and looked all about without seeing anything but feathers, the flock being very large, and at the season all the birds were moulting. I thought none were killed, and I returned to my friend empty-handed. He immediately told me I had never been at the place where I had shot, and he said he had seen some birds fall. I took bearings again, and went to the ridge he pointed out, where I found five dead. I had been on the next ridge, and the field having been closely mown I thought I must have seen the dead birds, but their colour so resembled the ground on which they were that I had overlooked them. Probably others had been wounded, but they had either fallen at some distance, or they might have ran away and hid

themselves. The Golden Plover rarely going on the mud flats in winter, does not acquire a grey plumage, but keeps his yellow spots, rendering it less conspicuous on the grass lands generally inhabited by him at that season, except during snow storms. This winter or second plumage is completely acquired by moulting in old birds in autumn, when all traces of the summer plumage disappear, and the bird seems very often almost as uniform in appearance as in the young bird, but it cannot be so, as the feathers do not, as in the young bird, all begin to grow exactly at the same time, and often in a careful examination if the bird has derived its winter plumage as a mature bird a single feather or two of the summer plumage may be found, but not invariably. As a rule, however, the plumage of old birds in winter is much more dense than that of the young in most species, unless there has in its first autumn been a complete moult in such species only as have one. Some species, as the Black-tailed Godwit, we cannot observe the changes in, as who has seen one half changed from the young bird to its winter plumage? Certainly no one hereabouts. Or the Whimbrel, Spotted Redshank, or Wood Sandpiper, the Little Stint, the Ruff, the Pigmy Curlew, the Great Snipe, the young of all these pass us before commencing to change. Where are they when undergoing the change?

We even do not know whether the Grey Plover and the Godwits, and the Knots, breed the next year after being hatched. Perhaps those earliest hatched may. I have made up my mind all the Common Godwits do not at any rate, and on this species I will make many special observations.

Amongst Waders some kinds commence to change from their winter to the summer plumage much earlier than others. This is probably regulated by the belt of ground inhabited during breeding time. The further north the limits of this are, the later the species will acquire its breeding dress. Some species have acquired the latter plumage by the end of March, I have had the Black-tailed Godwit and the Redshank as early, whilst other species do not assume it till May; but in the summer plumage the uniformity which is conspicuous in the young bird's first

plumage is absent, in consequence of its having come by degrees, and many feathers, in almost all the species, never get into the plumage of summer, and a portion of the summer plumage of a bird has often come so early as to be much faded before other summer feathers have been acquired, either by moulting or change of colour in the feather peculiar to the season.

Many kinds of Waders seem rarely to acquire a complete summer dress in spring, as the Black-tailed Godwit and Temminck's Sandpiper, both these kinds often having many plain back feathers amongst their plumage. After the feathers have once got to their full colour, and as soon as the birds have laid their eggs, the feathers often begin to fade and appear worn at the edges. I think the winter plumage of these birds should be called their most general plumage, as all old birds acquire it, and the young more or less at the general moult in September, when all of the species become nearly alike; and as I have remarked the assumption of the summer dress is uncertain as to time, and every one who has been in the habit of seeing numbers of these kind of birds killed from flocks in April and May must have observed every state of plumage from quite pale to complete dark.

I have frequently had the Dotterel and Golden Plover moulting to black breasts in spring. I think it probable that when a young bird of the year in some species does not moult all its body feathers in autumn to acquire its winter plumage, but they merely wear into that state, it will moult then in spring to those of the summer plumage, but if the bird had moulted its back and breast to its winter plumage, the summer plumage may be acquired by alteration in the colour of the feathers themselves.

It would appear that sometimes a Wader has some primaries renewed in spring. Now a question arises would these renewed primaries be renewed again in autumn? It may be necessary in some cases of young birds of the preceding year to have these renewed. Now it appears certain that a bird can have its feathers renewed at any time in case of accidents. Now, perhaps, this partial renewal in spring of the primaries may be the commencement of the regular usual autumnal moult, and that it goes on

constantly during summer, as the feathers are required, till the autumnal moult is completed, and that these primaries last the bird till the autumnal moult of the following year. I even think now that this is likely to be the case; certain it is some birds acquire a portion of their summer plumage by moulting. Birds having acquired only a mixed plumage by breeding time, whether by recent moulting or by change of colour in some of their feathers, the vitality of which remained, so as to enable them to change with the condition of the bird—(that is red and white feathers, as Knots and Godwits, or black and white, as Plovers), may go on casting the pale feathers, the vitality of which was lost, during the whole summer, and these renewed coming as summer feathers when renewed, so long as the summer condition remains in the bird itself, and this moult may be continuous till the bird completely acquires its winter plumage. At this time any feathers the bird had of the summer plumage in the spring would be cast for those which would become winter plumage, as the bird was losing or had quite lost its summer condition, and the feathers of summer plumage acquired previous to its having done so entirely, I think would fade and harmonize with those of winter.

Some continuous change of this kind in the body feathers might account for our Northumberland Golden Plovers being so rarely in the breeding season met with with so much black on their breasts as the more northern birds get.

In early spring we sometimes find the mature Grey Plover with a considerable quantity of marbled with black feathers in the breast, and not moulting; these evidently look as if they were changing colour, because they are neither winter nor summer feathers, but between the two.

In the spring both old and young seem sometimes to acquire a portion of the summer plumage by moulting, and a portion by change of colour of the plumage. The old birds having certainly had their entire plumage renewed in the autumn, probably require fewer new feathers than the young birds in the following spring, and it is not unusual in some species to find one or two

feathers renewed amongst the wing coverts, tail, and tertials, but which when renewed in spring come as the summer plumage, and which are the only feathers near which are so. When old Knots return from breeding in August this is plainly seen. One or two wing coverts, perhaps on one side only, remain as summer feathers acquired in spring, and the birds evidently have not moulted any wing feathers since, all the rest of those feathers remaining as they were till the general moult in autumn. After any one of these species had once lost a summer plumage it does not seem possible to arrive at its age from its appearance.

Little seems to be yet known about the change of plumage in birds, but it would appear the whole condition of the bird is altered. In the Spotted Redshank not only do the feathers alter in colour but even the legs, which are red when young and in winter, in summer when the bird becomes black, the legs become dark brown.

In defining a genus (if there is such a thing!) has colouring to be taken into account? If so, are our Phalaropes the same genus, as how different their colours are in summer. Why does one get red and the other not? Why do the Knot and Pigmy Curlew get red breasts and the Dunlin black? Why does the Little Stint remain white? The Pigmy Curlew seems equally allied to the Dunlin as the Knot. As to the colour of the summer plumage the Godwit, the Knot, the Pigmy Curlew, and the Grey Phalarope seem allied, but what other affinity is there in their relationship? Then again some individuals of a species get higher coloured than others in summer.

Many Waders in first plumage generally resemble, in a great measure, the old birds in summer plumage. Where the old birds are red the young are buff, but by winter they all get white, as do their parents. In the Plovers, however, the young show no traces of the black breasts of their parents' summer plumage.

No wonder the difference so apparent between young birds of the year and old birds in August and September caused earlier naturalists great trouble in making out which were alike. How



very different in appearance are the young of the Ruff, for instance, not taking into consideration the frill. Observe the great difference in the slim-looking young bird in August and the mature bird, even after its autumnal moult, with its broad ash-coloured feathers, wing coverts and all; and observe the great difference between the young brownish Common Godwit in September and the full-plumaged mature grey bird in October, and the male in his red plumage. Even the Redshank, what a different-looking bird the spotted brown young bird is in August, and even late young birds in September, to the fully-feathered bird having acquired its grey winter plumage.

All the species of Waders vary in the shape of their beaks, length of legs, and other matters. These variations are undoubtedly designed for the species' particular economy. In some you have long beaks with long legs, as Curlews and Godwits; in others long legs and short beaks, as Plovers. In the Ruff you have long legs and a moderate beak, in the Knot you have moderate legs and a moderate beak, in the Snipe a long beak and moderate legs. Well, in some the difference varies with the sexes. This is difficult to account for certainly. It is quite clear the Godwits have long beaks to enable them to disturb the sand and mud in shallow water and seek for food without wetting their heads, the Snipes to probe the moist ground in search of worms. The Ruff has a short beak, as it appears to feed often on insects it finds on the plants growing in the water, and he has long legs to enable him to wade and reach these. Plovers probably take all their food from the surface of the ground, hence their short beaks, but a bird like a Grey Plover looks awkward when it puts its beak on the ground, as you see conspicuously on the open sand. The Sanderling and Knot seem to feed much in the same manner, often keeping their beaks a very short way in the sand, whether disturbed by the action of the water or when it is still; but the Knot occasionally seems also to live on small shells it procures from the rocks, which the Sanderling does not. I never saw a Sanderling settle on rocks, they keep completely to the sandy shores.

The Dunlin often wades amongst sea-weed moved by the water and rests on it, and requires a longish beak to reach small substances amongst the floating weed; in such situations it sometimes swims.

#### ON THE CHANGES IN PLUMAGE OF GULLS.

I think our Terns and Petrels resemble the smaller kinds of Gulls in their moulting and changes in plumage towards maturity, which are, First, the young of the year in the feathers which take the place of the down, the next change is merely in the back and breast feathers, which begin to grow before winter almost as soon as the first feathers are their full size, this constitutes the winter plumage of the young birds. During the next summer these young birds gradually moult their wing and tail feathers, this moult continuing throughout the summer is completed early in autumn, and by that time the birds have acquired their complete winter plumage (which is similar to that of the old birds, suddenly acquired by them at the same time of year); and I have not the least doubt but that these birds have the summer plumage of the adults the following spring, which they, as well as all old birds, lose at the end of summer when they again moult to their winter plumage. This process is afterwards carried out with the greatest regularity with the seasons so long as the bird lives.

Still, to prevent confusion, I only reckon three distinct states of plumage, which are, first, that of the young; second, that of winter; and third, that of summer. The change of the young bird to winter being only partial.

Now to illustrate these changes I take the Black-headed Gull, but it must not be expected that these changes are exactly the same in coloration in the different kinds of small Gulls I include here. In it, the first plumage is dark brown, the back and breast feathers begin to be renewed soon after the young can fly, it then acquires a blue-grey back and white breast, retaining the entire wing feathers and tail over the winter, moulting them as I have just before described, and acquiring its complete winter

plumage by the autumn (that is with the head white). The third or summer plumage (that is the black head) being acquired the following spring, as in all the older birds of the same kind.

I have occasionally seen this species acquire the black head in spring, then retaining the tail feathers edged with dark, those of the young bird's first plumage ; but I think it is unlikely a bird in similar plumage would breed. This species in spring, besides acquiring the black head as a summer plumage, also often becomes highly tinged with pink on the breast, resembling the Roseate Tern, as well as having a great increase in the brightness of the colour of its beak and legs at the same season. These alterations would appear to be caused by the change in the condition of the bird in consequence of the season. So soon as any dark marks appear on the head in spring the change to the black head is rapidly completed.

In July and August these birds, particularly the old birds, after leaving their breeding places, sometimes assemble in immense flocks on the sands about Holy Island, and it is curious the regularity of their moult. They are then losing their black heads. To a day you will find the same feathers cast from the wings of the different old birds. They begin to moult the feathers between the primaries and secondaries first, and then the feathers on each side, going regularly to the end of the primaries and the end of the secondaries. During the time they are moulting their wing feathers they seem to like very extensive tracts of sand where, if they are disturbed, they can, by taking a not very lengthened flight, get out of your way, and thus escape being got very near to. The young bird is nearly as elegant as its parent, the wings of both are most delicately marked, the centre of the quills being pure white, making a very conspicuous white mark, which is margined to a certain extent with jet black. Most of the young birds apparently leave earlier, their wings being fully feathered, they are, in consequence, able to take longer flights.

So soon as the mature birds have finished their moult they migrate in a body, a chance bird only being met with during

winter. I often wonder how anyone can allow these lovely birds to be destroyed at their breeding places on account of the supposed injury they do in taking Grouse eggs. You make laws to protect what might be considered useless birds, and permit such birds as these, ornaments to the country generally, to be cruelly destroyed by the owners of the lands who ought to be their protectors.

Only the birds intending to breed (those with black heads) come to their breeding ground in the spring, and if another year has to pass over before the young do breed, I would ask where are all those immature birds of the previous year which do not appear at the breeding places? Probably more of the species in their immature state are scattered over various parts of the world than there are of those which come to their breeding grounds, the majority of these immature birds remaining in southern localities, where the old birds as well as they spend our winter.

In July 8th, 1876, we got three young birds, nearly able to fly, which we put into an enclosure with a small pond in it. The smallest was the most greedy, swallowing large earth worms at once; the others ate readily also. They seem very fond of the water, washing frequently during the day. They are evidently much more difficult to rear than the larger kinds of Gulls, their feet often swell, and they die suddenly. The young birds, as well as an old one we had several years, and which acquired its black head each spring, were always very fond of mice, which they easily swallowed whole. We did not, however, succeed in keeping the young birds alive over the next summer, which I was desirous to do, so as to note the exact time taken to acquire the mature winter plumage, but I think they do so the autumn of the year after they are hatched, and that they acquire the black head the following spring. Our birds when they died had not commenced to change any of their wing feathers of the young or first plumage. It would appear the young of the year of Gulls, Phalaropes, and some Plovers and Sandpipers retain their tertials over the winter, whilst the Ducks seem to get theirs re-

newed in autumn. A Common Gull, a one-year old bird, we got, having the wing feathers of the first plumage, did not live long enough to observe the changes in its plumage, but I think it acquires its mature plumage the autumn of the year after its being hatched.

We now come to the larger kinds of Gulls, as the Greater and Lesser Black-backs, the Herring and Glaucous Gulls, which require a longer time than the smaller kinds, to acquire the plumage of maturity. A partial change only in these kinds takes place annually, and the attainment of the mature plumage is gradual till this is arrived at, which it is I think about the fourth change from the young bird's first feathers. When the plumage of the mature bird is once acquired, the change between that of summer and winter goes on regularly, the feathers of the head only altering their colour, being clouded with brown in winter and the purest white in summer, but in addition to this feathery change the beaks, eyelids, and legs get much more highly coloured at the latter season. I have tried in spring to find out how the change in appearance takes place in the head feathers, but without success. Certain it is the change takes place rapidly, as tame birds with the mottled heads in about a fortnight have white heads, and I think the edges of the feathers must either wear or drop off, but how so suddenly?

I will take the Lesser Black-backed Gull as my example, the change in plumage being similar in the other kinds mentioned, though the plumage generally of the Herring Gull, both young and old, is paler than that of the Black-backs, and that of the Glaucous is still paler than that of the Herring Gull, the most conspicuous feature being the total absence of black on the flight feathers in the Glaucous Gull, which being a very northern bird seems to carry out the peculiarity of being requisite even for a Gull to be whiter in the far north. One would hardly anticipate the absence of so small a portion of black would be so important as to have been considered by Nature necessary, but for this, no doubt, she has her reason. Much difference in size appears amongst the Lesser Black-backed Gulls even of the same age;

probably in a great measure sexual. The larger young birds seem generally darker in colour and hardly so active as the smaller birds. In the young even of the same age the beaks vary in colour. By the end of July, if the eggs have not been taken, the young are in their first plumage and able to fly, but at the Farne Islands young birds are sometimes unable to fly in the middle of September. In 1875 we got two. The larger one pined and died. Probably it was injured by some fisher boys from whom we got it, and who carried it clumsily by the wings and tail, as when it got wet it remained so, and I think the oiling arrangements about the tail had been affected. The other one is still alive and well. The young birds carry their young plumage or first feathers, which are brown and spotted, till the following summer, when a gradual moult takes place, commencing on the back, the new feathers being slightly more ash-coloured, but still spotted. By July new back feathers are acquired, and the wing coverts and tertials are changing fast, and the quills and tails also change, and towards the end of summer their moult is finished. This is the second plumage, the whole plumage being still brown and mottled, but paler than that of the previous year. A precisely similar moult takes place the following year at the same time, but the renewed feathers on the back come plain dark ash colour or dark grey, and in some birds the tail becomes white, but in others again mottled, and in some birds many of the spotted tertials and small wing feathers seem not to have been cast. Some birds, however, with the uncast spotted feathers remaining, have then the white tail. In all birds of this age the primaries still remain without the large white spots of the mature bird. There is still considerable difference in the colour of birds of the same age, some being very much darker all over than others, the lighter coloured birds having some yellow on their beaks, some also begin to show some red on the under mandible, but still there is much dark colour on the beaks of all, and the head retains the dark colour of the winter plumage over the summer and the eye remains dark, but the red-coloured eyelid begins to show, but there is no trace of the orange-coloured legs.

The following moult appears to bring the bird to the plumage of that of the mature bird's winter plumage, and is followed in the next spring by that of summer, but I do not say this is always the case, as we have had some birds which have not been in such good plumage as others a year younger than they were, showing how difficult it is to trace and account for Nature's arrangements. There is also apparently a great difference in the colour of the feet, some being much more highly coloured than others, and the bright orange colour of the legs is only attained when the birds are mature; at first they are smoky flesh-coloured, and they annually become clearer as the birds acquire age. These large Gulls sometimes acquire the white head in summer before having acquired their mature plumage otherwise. We have a Greater Black-backed Gull with a pure white head, and yet a mottled tail and some mottled feathers on its wings, those of the immature bird, and without the large white spots on the primaries, the beak having the red spot on the under mandible. I have never met with the Iceland Gull in any state of plumage on this coast, and presume it must be an extremely rare bird.

Nature seems to have taken care that the moult shall be gradual in the Gulls, so as to interfere as little as possible with their flying, which they are compelled to do to procure food and exist.

Some years ago one of our Gulls by some accident got its thigh broken, and I fancied it could never be anything but a complete cripple, as it seemed impossible to set it as it was broken so high up, and the bird tumbled quite over when it attempted to walk, the leg simply dangling at its side. However we shut it up within a wire fence and let it remain quiet, and at the end of a fortnight it could walk a little, and at length it became quite sound, and no one could tell it had ever been lame.

Wild Gulls appear to moult with great regularity. When the old birds are flying over head late in summer you can observe in almost every bird the absence of the same moulted quill feather, and they moult their quill feathers gradually to the end. I have observed old Gulls in autumn scarcely able to make way in a

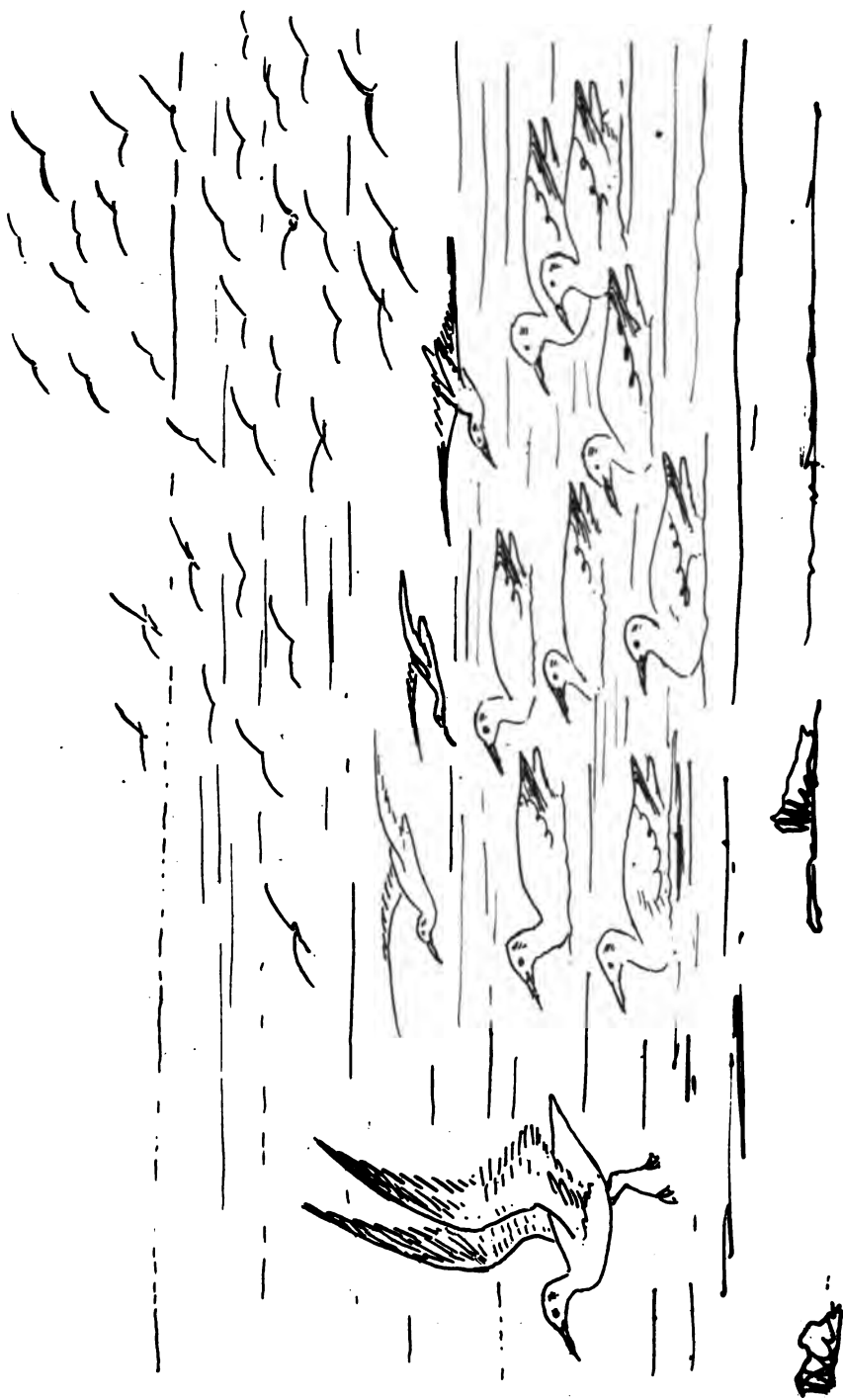














gale of wind, being so deeply in the moult; but at moulting time they generally keep much on the very extensive sands, where they can easily see danger in the distance, and though they will sometimes allow you to get somewhat near, they are good judges of distance and though they tempt you to follow them under such circumstances, they seldom allow you to do them much harm, merely flying a little further each time you approach them. These species, as well as other large Gulls, often feed on the *Telina zonata* which they find amongst the wet sands; and you often see the shells reduced into fine gravel lying in little heaps on the sands ejected, the shells no doubt having acted as sand in helping to digest their food.

The Lesser Black-backed Gull, though very common on the Northumberland coast in summer, evidently migrates in winter, probably southward, and its place at that season is taken by the Common, the Herring, and the Greater Black-back Gulls. The Common Gull never breeds on the Northumberland coast, though a very common bird in autumn and winter, neither does the Great Black-back, and the Herring Gull only very sparingly.

The Lesser Black-backed Gull seems equally at home inland in summer, as on the sea side, breeding on the moors far away from the sea, but it is there often considered vermin and destroyed in consequence.

In spring in thinly populated parts of this county in some districts, quantities of Gulls come inland. In North Northumberland about Tillside in April, I have seen Lesser Black-backed Gulls, Common Gulls, and Herring Gulls come much on to the new ploughed land. The Black-headed Gulls also come to their breeding grounds, and sometimes near water you see them hawking for insects on the wing.

The Glaucous Gull breeding in high latitudes is only occasionally met with on this coast, particularly the mature birds, and these only in winter plumage; the young is much oftener seen, young birds generally seem to be greater wanderers than their parents. I have met with old birds January 8rd 1887, and on December 21st 1846 I saw three in a game shop in

Newcastle, one mature bird I procured and gave to Mr. Hancock, and in February 1878 my son and I got a mature bird at Holy Island which I gave to the Museum in Newcastle; it was about the harbour for several days, and was not difficult to approach. The following is a description of the bird I had in January, 1887, taken at the time, as I then considered it a very rare bird. Length from bill to tail, two feet three inches. Wings from tip to tip, five feet. Wings reach one inch beyond tail. Eye straw colour. Feet very light flesh colour. Nails horn colour. Bill same colour as legs, growing into straw colour on the ridge of the upper mandible towards the point, but not quite at the point, which is the same as the rest of the bill. There is also a sort of reddish orange-coloured spot towards the end of the under mandible, exactly below the yellow spot on the upper one. Body white, except the wings and back, which are very pale blue grey; and the primaries, secondaries, and longest tertials all broadly edged with white; the head and neck streaked with pale brown, darkest on the back parts; and in general appearance it much resembles the Herring Gull, except the absence of black on the wings.

The Little Gull might with the greatest propriety be called the Lesser Black-headed Gull, as its changes of plumage seem entirely to correspond with those of that bird. It seems not so very uncommon during its autumnal migrations on our coast, young birds of the year having occurred in later years during autumn and early winter in the state I have pointed out about the Black-headed Gull, that is dark young birds, but having begun to acquire ash-grey feathers on their backs. I find memoranda of them September 8rd, 1846, and October, 1847, only. I believe mature birds having acquired their winter plumage have been shot later in the year, but I have not met with any, and in summer when with its dark head it has very rarely been captured in England. Again I ask why do so many of these autumnal migrants keep so persistently away from us in spring?

Now a few words about the Skuas or Arctic Gulls.

#### GREAT SKUA.

My bird was obtained at sea, near Cullercoats, 24th January, 1863.

I have had no opportunity to observe the changes, if any, in this bird's plumage, as it is very rarely met with on this coast.

#### BUFFON'S SKUA.

This young bird of the year, in its first plumage, was shot by my brother, on Blyth Sands, in October, 1841. So rarely met with it is not possible to learn much about him, evidently a wanderer, but from his similarity to the following no doubt his moulting changes will be similar; but why this species is constant in colour and the other erratic is a mystery.

#### RICHARDSON'S SKUA.

An immature one-year-old bird, shot on Holy Island as it flew over the Sandhill during the last days of August, 1878.

I think the Skuas get their mature plumage the autumn of the year after being hatched, and that the light and dark varieties have nothing to do with age, as I shot this very pretty bird (without doubt of the former year), which has a quantity of the barred feathers of the young bird's first plumage remaining. It is, however, the lightest bird I have seen. It is white from the chin to the tail, excepting the few barred feathers remaining, and excepting for the centre tail feathers it might easily be taken for Buffon's Skua. One of the centre tail feathers (deciding from its shape the species) is quite short, but the bird is not moulting its large wing feathers. Why is such a bird migrating with those coming from their breeding grounds, as it would appear from its immaturity that it would not have bred that year,\* but as the year-old bird in its changing condition is so rarely met with, it shows how a comparatively speaking common bird is dispersed over the globe, and how little risk there is of dimin-

\*The same remark would apply to the apparently immature Godwits accompanying those in breeding plumage when going north to breed in May.



ishing the number of the species in killing a few at distances from their breeding grounds. This bird is the only immature one I have ever met with, except those of the year ; the species leaves our coast with the Terns in autumn, merely migrating along the coast, having left their breeding places, both old and young. It does not appear to follow the Terns on our coast on its spring migration, as it is not then seen on its way to its breeding grounds. Why does it not return as it comes? Who knows? They sometimes feed otherwise than by robbing the Terns, as I once shot one in Holy Island harbour whilst feeding on the refuse from the herring boats; it settled on the shore to feed. It was a mature dark bird, with irregular white marks on the wings, and having skinned it, I gave the skin to Mr. Hancock.

During a heavy squall with rain at the end of August, at Holy Island, I could not help admiring the flight of this Gull as it chased some Terns. It was blowing so hard and the rain was so heavy I was very glad to take shelter within the look-out on the Heugh, and just peep over to watch a boat bringing some friends from the Law. One would have thought it a time even for a bird to seek shelter; not so, however; he was as importunate for food as if it was a fine day. The wind and rain apparently had not the least effect on his buoyant flight, and he seemed to be playing with the gale, turning sideways to it with the greatest ease, and turning with apparently the least exertion to himself, till he had obliged the Terns to give up their food, when he, as usual, left them to search for more or go without, he not caring so long as he got what he required from them.

I find entries of having had these birds since 1886, in which year, August 23rd, I had a mature bird, light variety, and on 28th September a young one, and always at the same time of the year only. I once shot a mature light-coloured bird in good feather and very fat which had only one leg, the other had been taken off above the knee, but in a bird which rests on the water so frequently and feeds on the wing, the want of a leg would be of little consequence.

When on the subject of Arctic Gulls it seems strange Mr.





Selby so rarely met with them, as his book records. I have found them, both old and young, pretty common in some years on the coast in August and September, but they seldom fly over the land, keeping near the flocks of Terns, whose very lives they seem to render almost unbearable in their attacks on them for their food; but I have not observed them harass the smaller Gulls.

Holy Island, Sept., 1876.—Richardson's Arctic Gull was not nearly so common this autumn as last, and none came within shot except a young bird when we were going to draw some fishing lines, when it fearlessly came right at the boat; and it was pretty to see it as it examined a bladder floating to show where the line was; it seemed not to understand it. It looked attentively at it, turning its head sideways so as to see it more distinctly as it passed fearlessly on.

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## TERNs.

### ROSEATE TERN.

Mature in summer plumage and young in first plumage. The latter I consider a scarce bird now. These birds were shot at Hartley Island as they flew together, the old one accompanying the young, and attending to it.—August 6th, 1846. The young bird's quills were not fully grown, showing how early these birds leave their breeding grounds and depart to more southern climes, the nearest breeding place being the Farne Islands, perhaps forty miles north.

July 1st, 1846.—This species had eggs on Fouley Island, Lancashire.

Where does this species pass the winter?

When in London, in 1840 and 1841, great quantities of Black Terns' eggs were sent to Leadenhall market, from which I procured some most interesting varieties. I have before mentioned this bird. Cooper once sent me a Black Tern he shot in spring at Brough Marsh, a bird I think of the previous year, not in

its mature plumage, evidently not yet a breeding bird, and a wanderer.

The Sandwich and other Terns' eggs I now have were taken many years ago by Mr. Hewitson and myself at Coquet Island, at which time the island was covered with Arctic, Sandwich, and Roseate Terns' eggs during the season, but I believe none have bred there for many years.

I come to the conclusion that Terns only acquire their mature plumage by the autumn of the year after being hatched, in consequence of having sometimes seen immature birds of the Arctic and Common Terns, that is without the black head and with dull-coloured legs and bills in July. I find a memorandum of one of these shot 1st July, 1839, on this coast. Head white, a narrow black ring round the eyes, extending in a direct line backwards, meeting behind and extending downwards, where it was about half-an-inch broad, being only about a quarter of an inch broad behind the eyes. Length from bill to tail, fifteen inches. Breadth across wings, twenty-nine and a half inches. Bill, from point to nearest feathers, one inch and a quarter; to wick of mouth, one inch and three-quarters. Wing, from bend to end of quills, ten inches. This was a similar bird to the one shot late in July by Mr. Hancock with the cockle on its beak I have before referred to. I have not seen the Sandwich Tern in this condition. Probably the immature Terns linger during summer near where they and the mature birds pass the winter, it being unnecessary for the non-breeding birds to visit the places of their birth till they arrive at maturity. In such case, consider the numbers of these immature birds there must be wandering about seeking food.

As I am not writing a scientific book I may add that the Terns, or, as they are commonly called, Sea Swallows, which abound on some parts of this coast in summer are as impatient of winter as Land Swallows are, all only like them arriving about April, and after breeding, with their young taking their departure to southern climes to spend the winter.





## PETRELS.

### THE SHEARWATER.

My bird was caught in the fishing nets at sea near Cullercoats. I have mentioned it previously.—May 20th, 1870.

### STORM PETREL.

My bird was found dead by my daughter Mary on Goswick Sands about 10th Sept., 1876. It had been washed up by the tide, and was as wet as it could be and mixed with sand. It looked like a House Martin from the white mark on its back, but so soon as I saw what it was I took it to the land, and in the first fresh water I found washed it thoroughly, and let it dry in the wind as we went home; by the time we got there it was perfectly dry, and as clean as ever it was. It was moulting some of its body feathers. It was lean, but the cause of its death I know not. Who knows anything about these birds' migrations, I wonder?

In the end of June, 1886, many Storm Petrels appeared on the coast. Some were killed near the shore at Cullercoats, and at Pape's game shop several were sold.

As I have had so little opportunity to see these birds the less I say about them the better, they are mysterious birds at best.

To show how little reliance is to be placed on what has often been written, I might say on any subject, and how undesirable it is to have recorded what birds are "*seen*" only, particularly as readers generally have no possible means of judging, first of the truth of what is written, and then also of the probability of the writers being able to discriminate the species written about, and how necessary it is that the reader should use his mind and intelligence before taking things for granted, I will take the following instance from Bewick's account of the Stormy Petrel, where it is recorded one was shot from a flock of Hoopoes in January. Do not let any one suppose for one moment I wish to detract from Bewick's merits as an artist of the very highest order. It would be the greatest presumption for me to do so, even if I were



ever so desirous; but he was not, I believe, answerable for the letterpress, certainly not in this case. Since the time his book was published we have obtained much information about the periodical migrations of birds, and I can only imagine that the word "Hoopoes" has been a misprint. Anyone having paid the smallest attention to birds must see that there is some mistake, as who in England ever heard of a flock of Hoopoes at any season. This bird is at best an occasion periodical migrant, and never could be in England at such a time of the year, and even the Stormy Petrel itself is not infrequently met with as a periodical migrant, but I think its occurrence is rare in the depth of winter.

It would appear some writers expect the arbitrary belts of the world assigned by Nature for the birds to migrate to and from at the various seasons can be altered by protection, or what else can they be driving at? These were not settled by man, and are unalterable by him; the Scriptures mention that the birds know their appointed times, and man, unless he catches the birds and pinions them or keeps them in confinement, has no power, and never will have any, to alter these limits. The migratory birds will continue to be the same till the end of the world. Man may destroy the ground necessary for their subsistence and none will come in consequence, but plenty are produced and will be at other countries for all Nature's own purposes and whenever the birds are required for her interests, irrespective of man and his works altogether.

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## COMMON GODWIT.

### YOUNG OF THE YEAR.

One male, Sept. 5th, 1840, Northumberland coast.

One male, Skinburness, Sept. 10th, 1846, shot from a flock of four. I did not observe them there in such flocks as come to the Northumberland coast at this season.









## WINTER PLUMAGE.

- A.—Female, mature, January, 1844, Fenham Flats.  
 B.—February 6th, 1845, ditto.  
 C.—Male, December 29th, 1847, ditto.  
 D.—Male, Goswick Sands, Sept. 24th, 1877.

## SUMMER PLUMAGE.

*Male and Female.*

The most complete birds I could meet with, picked from numbers in Leadenhall Market, May, 1842.

Two males, 17th May, 1841, from Norfolk coast.

- A.—In this bird the tail is plain ash-coloured.
- B.—This is a bird of the preceding year, but it has changed in a great measure to its winter plumage; the back feathers instead of coming plain, as in the winter plumage from the mature bird, have come marbled, more resembling the young bird's first feathers. Why young birds of this species get this marbled plumage towards winter I do not understand. The new feathers are larger than the bird's first feathers. The two centre tail feathers which have been renewed project half-an-inch beyond the rest which have not been renewed, neither have any of the wing feathers or the tertials been renewed, and the latter have become much worn, the lighter portions of the spotted feathers being nearly gone.
- C.—This is a curiously-coloured bird of the same age and much in the same state of plumage as the last, but instead of having got a lighter-coloured plumage on the back and breast it is much darker. In fact I have seen no other bird like it. It had not moulted any of its tail feathers.
- D.—This is a mature male acquiring its winter plumage, many red feathers remaining on its breast. The tertials

have been renewed, and are plain grey. The tail incomplete.

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28th October, 1889, examined several. Largest:—Length, 18 inches; breadth,  $29\frac{1}{2}$  inches; bill,  $4\frac{1}{2}$  inches. Smallest:—Length,  $14\frac{1}{2}$  inches; breadth,  $26\frac{1}{2}$  inches; bill,  $2\frac{1}{2}$  inches.

I have a note dated October 8th, 1851.—“Common Godwits very abundant at Holy Island, flying about and making a noise not very unlike a Snipe sometimes. Shot seven from a boat. Squally day. Intended to get some the following day which was however fine, with a mild south-east wind, scarcely one to be seen, they had all changed their ground. The old birds had nearly completed moulting, only one out of five old birds had any summer feathers remaining, and it only had a few on the scapulars; the quills and tails not being fully grown. The tails of uneven lengths and not regular. In the quills the outside one being the last to grow in all; many of the secondaries were only about an inch long. The birds of the year getting new marbled feathers on the backs and some getting new centre tail feathers.”

I had often observed the two centre tail feathers of the young birds of the year projecting beyond the others a little later in the season, but did not know the reason at that date. I had remarked old Godwits moult white below, ash-colour above, the young birds buff both above and below more or less.

I am inclined now to think these what I called old Godwits were only birds of the previous year, similar to the one killed on 8rd September, after referred to. Had they been mature birds some trace of red feathers would have appeared on the breasts. The back feathers, supposed to have been those of summer, being simply the remains of the marbled plumage acquired the first autumn; and I now fully believe all the Common Godwits killed and seen in spring and summer without having acquired their red plumage are merely birds of the preceding year, most, if not all, of the birds of the kind acquiring their breeding or red plumage the second spring after being hatched.

April 7th, 1852, saw some flocks of Common Godwits at Waren Slake, near Belford, when staying with Mr. Broderick. They looked reddish-coloured when they flew, and I think they were acquiring their summer dress. They were too wild to be approached within shot.

As this bird was always one of my especial favourites, and as it sometimes appears to remain on or visit our northern shores from the time of its first appearance in England, in the end of August, for a whole year, and even into the month of March following, though so rarely met with in its red plumage, it is a bird I must ask my reader's indulgence for the length of this notice of it. These changes one can observe, and they appear to be as follows:—On this coast the young birds on arrival are uniform in appearance, being spotted on the back and wings, this being their first plumage, all the feathers on the bird having commenced to grow at the same time. This state resembles to some extent the summer plumage, but is buff instead of red. Well, they soon commence to moult. The head, neck, back, and breast are early in October full of new short feathers appearing amongst the first plumage, and by the end of the year all the head, neck, breast, and back feathers have been regularly renewed to their full length. The birds perhaps not having quite lost their adolescent state when the feathers began to grow the plumage is a marbled one, not plain ash-grey, as in the old bird's mature plumage, but intermediate between the ordinary first plumage and the ordinary winter plumage. The upper and lower plumage still appears uniform, but none of the wing feathers have been renewed, not even the tertials, which by the year's end appear much worn, particularly the paler or spotted portions of the feathers.

In the young of this species the change by moulting in the tail feathers, and the tertials, as to time is uncertain. They are cast very irregularly. Some birds cast the two centre tail feathers first, some cast the two outside first. I have not seen a young bird of the preceding year with a perfectly renewed tail before September the following year, and which is then that of the



mature bird. You sometimes see a bird of the preceding year with some tertials renewed, being those like the mature bird plain grey by the year's end, showing how irregularly this species moults in these respects, but it would appear so soon as ever the tertials are renewed they come plain as in the old bird and not spotted like the adolescent plumage acquired by the young birds in autumn.

In the young plumage the tail of this species is always regularly barred, but this is so only once during its life.

The intermediate plumage of the first year birds, obtained by them at the end of October, appears to be gradually and entirely moulted during the next summer to the winter or ash grey plumage, which it acquires by October the year after, the bird never having been red. This precisely resembles and is the winter plumage of the mature bird, and no doubt they all change from this state to red the next spring as the older birds do; but suppose instead of having completed its winter plumage by October, say from some accidental cause, some of its feathers had not been cast till the next spring, when the bird had begun to acquire its summer condition, it seems to me likely though the feathers began to grow in the bird's winter condition, a change consequent on the season and age having taken place in the bird's condition during the growth of the feathers (which began to grow as winter plumage), they would gradually change during their growth to summer plumage, and each succeeding feather changed, as it commenced to grow would be a shade darker as the condition became more developed in the bird, and by the time the change of feathers, as far as it went, was completed they would all harmonise as its summer plumage. I think in birds like the Common Godwit the change in colour must be sometimes effected independently of moulting, as we sometimes see a bird in May very much changed, so much so as to be as nearly complete as the species ever gets, but pale, as if the change was only going on when the bird was killed without any moulting feathers appearing. At other times we see a bird only partly changed, that is with many feathers remaining in the breast

white, or white and spotted with pale brown, but the red feathers quite dark, and the bird not in the moult. Probably birds in this condition would not acquire any more red feathers the same spring ; but why a partial change in colour only has taken place seems at present unintelligible. Probably the white feathers remaining had been longest acquired by the bird and lost their vitality, but if cast during the summer by the commencement of the autumnal moult they would commence to grow as summer plumage, but would be modified and assimilate with the winter plumage by the time the bird completed its autumnal moult, the bird's seasonable condition having naturally changed in the meantime.

I am inclined to think Yarrell has rather increased the confusion respecting the two species of Godwits than otherwise. He, writing of the black-tailed bird, adds, "in the next species" (the Bar-tailed Godwit) (the Common Godwit of Bewick) "the tail feathers are invariably barred throughout their whole length with black and white. These permanent distinctions have suggested the name now in use." In his figure of this bird in the summer or red plumage the bars on the tail are made very conspicuous, apparently to carry out the former description. His description also of the winter plumage is evidently from a young bird of the year. In the engraving the tail of the winter bird seems unfinished, and if it were the complete winter plumage the tertials should have been plain and not spotted, the winter plumage of the old bird being grey and not brown ; and what he says about its breeding in Germany and Holland evidently has reference to the Black-tailed species, which is well-known to breed in Holland, the present species always apparently retiring to high northern regions in Europe to breed, it not being known in America.

I have before me the tails of several birds. No. 1 is that of a young bird, killed in September, consisting of the first feathers the bird gets, and which is regularly barred, the centre feathers having about seven bars of dark colour, the outside feathers about nine ; where the bars are near the skin they are rather

indistinct, the light-coloured bars are edged with rich buff. In some birds of this kind a similar tail is sometimes worn till the annual moult the following year. No. 2 is that of a young bird killed in February the year after being hatched. The two centre feathers and one outside one only have been cast and have been renewed, and are as in the tail of a mature bird killed the same day and after described. No. 3 is from a bird of similar age to the last. The two centre feathers and the two adjoining on one side only have been cast, and have come as in the mature bird next mentioned. (One only of these young birds had renewed some of the tertials, which had come plain grey, as in the mature bird.) In it (No. 4, the old bird) all the feathers have been cast the preceding autumn. The two centre feathers are plain grey for more than half their length, and when covered by the upper tail coverts no bars are seen. Near the skin there are a few white splashes, and when the tail is spread, but not till then, the traces of bars are visible on the half of the feathers which are covered by the tail coverts. None of these birds were moulting in any respect apparently. The next, No. 5, is that of a young male bird. It was given to me by Major Russell, who killed the bird in Essex in August, it was then casting the tail feathers of the young of the preceding year and acquiring the tail of the mature bird. In this tail the four centre feathers have been renewed, and are full length, and like those of the mature bird, *i.e.*, plain; the feather adjoining these on each side is half grown, and like the centre feathers in colour. On each side again are worn barred feathers uncast of the young bird, and outside these are short feathers of the mature bird. In the next, No. 6, the tail is renewed (entirely except the two centre feathers) to that of the mature bird, but whether this bird had retained its first centre feathers to this time or they had been renewed the previous autumn I am unable to say. This bird had only a few of the back feathers of the immature bird renewed in October remaining, and evidently had never had a red plumage, neither had the bird given by Mr. Russell, and which was moulting its its large wing feathers suddenly and completely, many of the

secondaries being out on both sides. The last bird was shot September 3rd, and had nearly completed its moult to winter plumage, the wings being renewed except two or three primaries on each side. This bird, I have no doubt whatever, would have acquired a very complete summer plumage the following spring, as having acquired from the young bird of the preceding year a complete winter plumage so early it would then be in full vigour, perhaps more so than a bird which had not so early completed its autumnal moult from the summer plumage.

It seems unaccountable why numerous Common Godwits of the previous year, in their marbled plumage acquired the autumn before, should be apparently migrating with the mature birds in full breeding plumage when on their way to breed. I think there cannot be any doubt but that these immature birds do not breed the same year, but are sometimes irregularly on our coast during the summer whilst changing from this marbled plumage to that of winter, and which is acquired gradually during summer and completed by September or October.

Major Russell writes me that seven Godwits and two Grey Plovers were sent him last summer, 1877, killed on the night of 20th June, on the Essex coast, from a flock of two hundred; the Godwits had not a trace of red; amongst each kind were males and females; and that he also saw about twelve on the 6th August, the day he shot the one the tail of which he kindly gave me, and he says there are some on the Essex coast in like state all through summer, though the bird does not appear there in summer plumage, or at any rate very rarely, pointing out how singular the line of migration in birds is.

All mature birds have similar tails, and I think several of the accounts one reads of Black-tailed Godwits having been killed in winter are merely mature birds of the present bird, the Black-tailed species being apparently much more impatient of cold than the present, and passing the winter in climates much milder than ours. Probably feeding more on fresh water productions than the present bird, which seems very rarely, whenever with us, to leave the extensive sea sands and muds left bare by the receding tide.

I have long been inclined to think Mr. Selby mistook plain-tailed birds of this species for Black-tailed Godwits, which he mentions as having met with in spring when migrating, as no one else seems to have noticed Black-tailed Godwits at that season on this coast, neither can I remember seeing the birds in his collection at Twizell, but since I saw it so many years have elapsed I may be mistaken. It seems possible the plain ash-coloured plumage this bird gets when mature in winter has been taken for the other species, and the winter plumage of the immature bird of this species has been mistaken for that of the mature bird.

It certainly seems curious why birds get a few feathers renewed, and those unevenly, as in these instances, and why one individual should require some new tail feathers and another not, the feathers cast having not been much worn; but it seems certain that in the case of young birds the moult is often very gradual, and that sometimes only a few feathers come to enable the bird to go on till some particular time, when the complete alteration in its plumage is necessary.

We do not yet understand these changes. As I have already remarked the young Common Godwit in October, instead of moulting to the plain grey plumage of the mature bird's winter plumage, on the back and breast gets a marbled plumage, somewhat resembling its first spotted plumage in which it arrives here in early September, and by the year's end this appears complete on the back and breast, but the bird's first tertials often remain, and the light-coloured spots have become considerably worn out, leaving the feathers jagged at the edges. Bewick's figure and description relate to a bird in this plumage, the spotted tertials show this, and in the description the scapulars are described as dingy reddish-brown with a dark spot. Where he remarks its residing in the fens and rearing its young there in summer most clearly relates to the Black-tailed species entirely, and perhaps Yarrell made the same mistake, having copied what Bewick said.

I have been lately told by a person who has resided on our

coast all his life amongst the slakes that this species is sometimes seen in July, but not showing any red at all.

On the 3rd September, 1878, a very windy day, many Godwits about, a flock of several hundreds on the mud, they rose a long way off but the wind brought a small portion of them round, and out of these one fell. It is a bird having nearly completed its winter plumage, but without a trace of red, and I think it never had a red feather, but is one of these marbled birds of the previous year, which had probably been moulting gradually all summer. As it was so like the ordinary winter plumage of the mature bird we ate him and several other young birds we got the same day, but I have its beak, wing, and tail, and other feathers now before me. The beak is three and a quarter inches long. The outside quill on each side is not fully grown. One of the centre tail feathers has only just commenced to grow, the others are of the mature bird, and the only traces of a former plumage on the back are much worn marbled brown feathers, but without a trace of red in them.

Now this bird might be an old female, but I think so early, if it was, the moult would not have been so nearly complete as in this instance. I must confess I was disappointed in the bird, as I have been anxious to get hold of an old bird in autumn red, or changing from red to white. Before lifting it up I saw it was in winter plumage on the back and tail, but on seeing its breast I was surprised to see it all white.

The only red bird I ever saw killed in Northumberland in autumn was one Mr. Hancock got at Hartley, on 30th August, 1887, and it had not commenced to moult.

On the 24th September, 1877, one of my sons, when I was with him, shot an old bird from a large flock with about a quarter of its red plumage left, the centre tail feathers wanting, and the quills about three from the end moulting, those outside not cast; and the last bird being shot three weeks earlier, if I got an old bird, I expected it to have been less changed and more interesting to me.

On 16th August, 1877, we found several red feathers and the

footmarks where a flock of Godwits had been preening themselves on the sands, and I have sometimes found the tail feathers of the old birds which they had cast, but out of the great flocks I have often seen late in August and September, I never could detect a red bird. I find I have also found red feathers cast, on September 7th. Probably the birds had rested and passed on, but from the great extent of mud it is often difficult to fall in with what one wants.

I have recently seen in the *Zoologist* Mr. Warren's notice of Godwits retaining their winter plumage in summer in Ireland, and from this and my own observations I feel more convinced that many of the young birds of the preceding year of this, and other species breeding far north, and in consequence late, may not breed the next summer, and that may account for Grey Plovers and similar birds being found so far southward as they have been, and that the reason of their not being found there, and on our own coasts also, in their summer plumage, is merely on account of their adolescence, and that they all probably migrate to their northern homes on their attaining their summer plumage the following spring, being that of maturity, and which shows they are birds which will breed. Any one knowing this bird well must have observed the irregularity of its appearance when the young first arrive in August and September. Sometimes huge flocks pass over not alighting, merely apparently keeping on their journey and hurrying to some more distant southern clime. A few hundred miles are nothing to them. They probably often appear at the extremity of their southern migration, and which may be miles and miles away even hence, from their northern breeding grounds within a day or two of their first appearance here. When flying over in this manner your attention is called by hearing the note of the bird, and on looking up you see an extended flock high in the air passing at a great rate.

I find a note September 19th—High spring tides at Snook Sandhills. Never saw so many birds as there were, Grey Plovers, Godwits, and Knots. The Knots and Godwits were in

hundreds. It was singularly interesting to see the flocks arrive just at high water, flying high over the ground several times, evidently surveying, and apparently when satisfied separating or singling out and wheeling over two or three times when they settled, but they were not easily approached. When the Godwits and Knots settled they were in clusters. All appeared young birds of the year. Many flocks never descended but went straight on.

I remarked out of ten young birds killed in September a female, a large bird, was the richest in colour. This seems strange, as she gets so little red in her summer dress in comparison to the male. What a wild musical cry this fine bird has! In September a large flock of young birds once settled not far from me in shallow water and uttered their usual cry. I stalked them; the tide was receding; they looked quite buff. On approaching several in succession held up their wings as if about to fly, they however merely rose and dropped again. I ran to secure the wounded birds first, as the tide was ebbing fast, and then went to where the dead birds were. Before picking them up I was hardly aware what plumage they were in, as they looked so much darker-coloured when lying on their breasts than I expected, and even when lying on the ground some of the birds were so high-coloured they looked almost like summer-plumaged birds on the back. They certainly looked very beautiful, and it afforded me great pleasure to examine them. We ate them. They were excellent, resembling Snipe or Golden Plover, but larger than either. These young birds get in high condition at this season, but should they happen to be on our coast in very severe weather and hard frosts I have known them take the *Telina zonata*, a common bivalve shell, from the wet sands and swallow them whole. Under such circumstances they would probably not be so good, as is the case also with the Curlew, which when young and recently come from inland is tolerably good, but which in winter is very strong.

April 2nd, 1845.—Examined several Godwits killed on the coast. One was moulting to its summer dress, back and breast,



but not much changed from its complete winter dress, probably a mature male, the auxiliary feathers under the wings and the upper tail coverts strongly marked with black; the upper tail feathers plain, as were the outside webs of most of the others. In several females no change observable. Some birds of the previous year were in their marbled plumage on the back, but not moulting in any part that I could detect. The tails of these birds were barred, and the upper tail coverts and auxiliary wing feathers slightly marked with dusky colour.

In May, 1841 and 1842, in Leadenhall Market, I had opportunities of seeing a number of these interesting birds. The female in my collection is the most changed of any I saw. In many of them no change was observable. The greater portion of the males were in red plumage, but a few of them, as well as females, were in their brownish mottled feathers, apparently those got the previous October from the plumage of the bird of the year.

The male and female are very easily distinguishable by the superior size and greater length of the beak in proportion of the latter, but this member varies much in different birds, and the variation does not seem to be occasioned by the difference in the age of the bird, the beaks, as with the feet, growing at once to the full size. I have now the head of a young male killed in September, its bill is exactly two and a half inches long; and from the same flock of young birds as it was killed two other young males were also killed of the same age, whose bills were then of the ordinary length of the male bird, which is three inches, but even in old birds it is not always so long. In the female the difference in length of the bill is greater than in the male, the ordinary length being about three and five-eighths of an inch. I have the head of a young female killed in October at present lying beside me, and the length of its bill is quite four and a half inches.

From this bird only appearing in its red plumage on certain parts of the coast, and then only for a short time, on its northern migration during April and May, it was for long considered a

distinct species, and no wonder, as the mature birds which wintered on our coasts generally take their departure previous to getting their red plumage. The reason of the appearance of these flocks so late after those which have wintered with us have departed is difficult to find out. From their coming at that time it would seem they were coming from the south, but why they should have stayed further south after those which have wintered here have left is difficult to account for.

I think I may safely say not one in fifty killed during September will be an old bird. Late in October and in November and December you commonly meet with old birds having completed their winter plumage. Occasionally I have seen some killed on this coast late in spring. On the 25th May, 1840, I got two young males of the preceding year, but without a trace of red about them. I once saw several in their red plumage on the Kentish coast in May, but at a distance. Very little is yet known how and why some birds moult to their summer plumage while others only change the colour of their feathers. It may be that the birds of the previous year sometimes moult to their first summer plumage, and after that age the feathers merely change colour; but that is hardly likely, as out of many Common Godwits that I have examined I have only found one which had moulted its back feathers. It would appear some birds of this family which have had a summer plumage begin to assume their winter plumage by moulting as soon as the young are old enough to leave them, and by the middle or end of September or beginning of the following month have completed their winter plumage.

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#### BLACK-TAILED GODWIT.

##### 1 AND 2.—YOUNG OF THE YEAR.

These are the two birds mentioned in Yarrell's work as killed at Brough Marsh, in Cumberland. I bought them at Mr. Heysham's sale. They were shot and stuffed by James Cooper of

Carlisle (who found the Dotterels' nests, and who I knew well). The plainer-coloured bird with the head turned was obtained on the 25th August, 1852. I have his letter to me giving an account of their capture, the other also killed in August.

#### WINTER PLUMAGE.

##### *Male and Female, Leadenhall Market.*

3.—The male, 6th May, 1842. No signs of any red feathers. This is probably a late young bird of preceding year.

4.—Female, April 19th, 1842, showing traces of red feathers.

The winter plumage of this species is rarely met with in England recently killed. It probably winters far to the southward of us, and does not arrive here till all chance of severe frost is over.

#### SUMMER PLUMAGE.

##### *Males.*

5 and 6.—Leadenhall Market, 24th March 1842 and May same year.

##### *Female.*

7.—8rd July, 1847, shot at Alnmouth. This bird I had recently killed. The bare places on its breast showed it had sat on eggs that summer.

On August 8th, 1858, I saw a mature Black-tailed Godwit which had been shot at Prestwick Car, but which was quite putrid when I saw it. The wings were moulting; about five quills grown, new, coming to about the tenth; wing coverts and back moulting to plain grey.

This species seems to differ from the other in this respect that it has not an intermediate adolescent plumage, at least I have never met with one in it; but at the same time it is so rarely met with between September and April or May in England that its change of plumage cannot be traced; but I never saw even a skin or set up bird in such a state of change; but I might ask where is it plentiful in autumn and winter?

This magnificent bird is now very much rarer in England than the Common Godwit, and its appearance in our northern part of the island is perhaps entirely confined to birds migrating southwards during early autumn. I remember hearing of one or two young birds having been killed at Teesmouth long ago in August. There are two I have from Brough Marsh, and three I was informed were killed near Liverpool in the autumn of 1841, and the two killed by Mr. Duncan, 8th Sept., 1869, are all the young birds I know of, and the occurrence of the old bird at the same time is even rarer. In the South of England it appears to be sometimes killed in spring. I have seen some I was told were killed near Oxford, but long ago. During an unsuccessful trip I took to the Kentish coast in May, 1841, to look for Kentish Plovers I saw a man at Sandwich who had a skin of a bird of this kind quite recently taken off. This bird was then acquiring its summer plumage. He said he had killed it at Pegwell Bay. I have already remarked about the singularity of this species not being met with more commonly when journeying to and from Iceland, which points out to us we know nothing yet about the migrations of birds.

I have had little opportunity to observe the habits of this bird, but from the numbers both of birds, dead and alive, and eggs I have seen sent from Holland to the London market during the spring it is pretty evident that it breeds there abundantly.

Those sent to London are intended to be kept in avaries. Quantities of them die on the road. They used to be hawked about the streets and sold for Woodcocks. I have often been sorry to see these unfortunate birds all huddled together, many of them half-dead, and have wondered for what purpose they ever caught them, as even if they could sell those that were well for a good price it never could repay them for the trouble they have in catching and sending them over. This bird seems to be common in summer in Iceland, from which place I have seen both skins and the eggs, but in intervening latitudes it seems wanting, very rarely being met with in Scotland. They have sometimes succeeded in keeping some alive over winter in the

gardens of the Zoological Society, but it is evidently a tender bird, and cannot exist long without having fresh water marshes to feed at in its wild state; and probably none winter where there is a chance of their being unable to get a supply of food from fresh water, in consequence of the same being frozen. The greater length of leg and shorter beak of this species in comparison with the other, points to its being a resident at inland marshes, where it can wade and pick off its food from the marsh plants.

There is a great difference in the size of these birds even of the same sex. The female is however much the larger, and she does not get so much of the red colour so early in the season as the male does, but she seems to acquire the red plumage later in the year, and in a much greater proportion than in the female Common Godwit. The eggs, which used to be sent from Holland among the quantities of those of the Pewit, are easily distinguished, being much larger and more like those of the Black-headed Gull, but more pointed. I have seen some killed in spring which were then getting some new feathers which were coming plain ash colour, but were evidently getting marked with the black and orange colour as they grew to their full size. This is the case in other species of birds. I have never seen the Black-tailed Godwit entirely changed to its summer plumage in spring on the back, seldom perhaps more than half, while the Common Godwit generally changes completely to its summer plumage, excepting the wing coverts, all of which seem to be never completely changed in spring in any of the Sandpipers.

Iceland seems to be the northern limit for this bird in summer, and it is said to be only met with on the south side of the island, where it is tolerably abundant. It is said to arrive on the shore about the first week in May, and soon after goes to the meadows near ponds to breed. The gizzards of those killed in summer are said to be filled with a substance like moss. I have frequently examined this species also the Ruff and the Redshank killed in summer, and always found what I took to be small thin roots of water plants much matted together in their gizzards.

Probably the belt of breeding ground of this species will leave off where that of the Common Godwit commences. No doubt the latitudinal belt of ground on which the two species are found at the different seasons of the year will vary in the same way, the Common Godwit going so much further north to breed, remaining with us during winter, the Black-tail coming to us for summer, wintering much further south.

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## CURLEW.

### YOUNG OF THE YEAR.

Skinburness, Saltmarsh, September 8rd, 1844.

This species may be called indigenous, as it is found with us during the whole year, but notwithstanding this it is undoubtedly a wandering and migratory bird, and probably, although met with at the different seasons, the birds met with are not the same at the various seasons. It is perhaps most common on the coasts in early autumn, when those breeding in this country leave the moors, and also when others bred further north are then journeying southward; some young birds, however, appear on the coast as early as the end of June. Our Curlew is a splendid bird, and I hope the day is far distant when the moors will be so much reclaimed as to deprive us of the pleasure of hearing its musical notes during spring and summer when breeding. The bird, however, is so generally distributed over so large an extent of country it is not likely to be banished, as the Black-tailed Godwit has been from the more southern marshes, where it formerly bred sparingly, but within recent times at very limited situations, which have since been reclaimed.

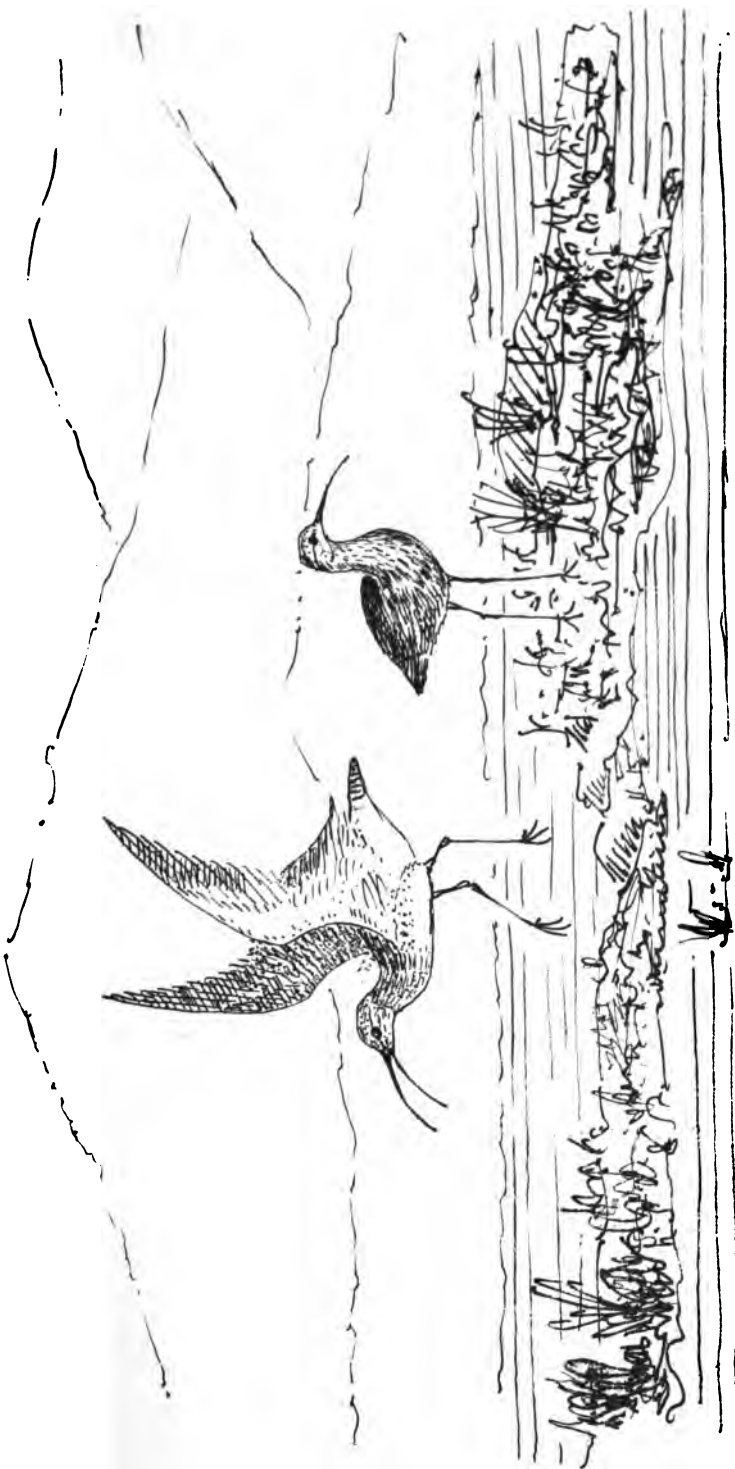
Though the Curlew does not get red in summer as the Godwits do, in early spring much of their upper plumage gets rich coloured spots and marks, which colour gradually fades during the summer, and in autumn these feathers are renewed. By September the old birds have completed their autumnal moult,

and become greyer and plainer in colour. The Curlew appears to be rarely met with in Iceland, its place being taken by its near ally the Whimbrel, whose belt of breeding ground would appear to begin where that of the Curlew ends. Its name on the Cumberland side of the Solway is Courley, which is like the common note of the bird when disturbed.

The old birds moult during August and September, and when moulting their quills and unable to fly well, they keep on the extensive open sands, but are even then not easy to get near, as they see you so easily, and then fly to some other part where they are as difficult to approach as before. During August and September the young birds are capable of taking more extended flights than their parents, as their wings are then fully developed; so it is with Snipes and Golden Plovers, whose moulting time in this country for old birds is similar. I have sometimes in very rainy weather in September seen old birds so deeply in the moult as to be unwilling to fly, apparently for fear of getting their undeveloped feathers wet.

It is astonishing when one thinks of the short space of time it takes for the growth of young birds. It would appear that a large bird like a Curlew, which lays its eggs in the middle of April, had sat on them and reared its young so as to be able to fly well by the end of June, only about ten weeks, and this for a large bird which is unable to fly until it has got the quill feathers, which have to serve it till the general moult in the autumn of the year following. The smaller species, as the Snipe and the Sandpipers, probably take even less time, and this accounts for the very short time some of these are apparently absent breeding far away. The Knot and Sanderling, though often with us into June, the young come by the middle of August, only leaving ten weeks to travel the distance, many hundreds of miles, backwards and forwards and laid their eggs and hatched their young.

Young Curlews are easily known in autumn, their plumage being uniform, all the feathers having commenced to grow at the same time; the spots all cream colour, and even the wing coverts







corresponding with the rest of the plumage, as is the case with the Godwits.

By the end of September the early-bred birds commence to get their first feathers replaced, and the more ash-coloured feathers can be detected as young feathers on the back, and this moult goes on gradually till the whole of the back and breast feathers are renewed, which they are before winter.

In the end of June, 1848, I saw young Curlews flying in flocks of five or six together on the moors at Whitelee. So late as 23rd May, 1867, the Cheviot Hills were covered with snow for three days, which sent many Curlews again to the low grounds.

On the 21st March, 1858, it snowed heavily nearly all day, and the snow lay deep on the ground. At Prestwick Car in the evening I saw quantities of Curlews, which came to the shallow pools to wade about in. They were most likely temporarily driven from the high grounds where they had gone to preparatory to breeding.

A white Curlew with a few spots of the proper colour only is in the Newcastle Museum. It was shot I think on the Northumberland moors some years since, and was given by the late Mr. Henry Parker of Elswick. I think I remember him telling me it had been observed for a long time before it was obtained.

When I was quite young I remember finding on the moors two young Curlews unable to fly which we caught and brought home. At first they did not appear inclined to notice any food provided for them. We put them in a walled garden. After a while I got them to feed in this manner:—I got a quantity of worms and dug holes in the ground and put in the worms, I then cautiously approached the birds, causing them to move in the direction of the holes. At first they did not appear to notice the worms; however, after once or twice causing them to pass them, very slowly, I at last saw one hesitate in his walk and look sideways into the hole. This was enough. He began to devour the worms at once, and he never afterwards hesitated to be driven to the holes. They lived until the winter, over which it seems

almost impossible to keep such birds, they naturally seeking the shores during winter to procure food. They were expert fly-catchers.

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### WHIMBREL.

#### YOUNG OF THE YEAR.

Killed at Hartley, Sept. 5th, 1840.

This bird, though only known to us as a periodical visitor during its migrations, is very often on our coasts till late in summer. It seems equally common during spring and autumn. I have seen many killed till the end of June, by which time almost all migratory birds had departed to breed. Some appear again by July. Those coming in autumn I think seldom remain for many days, but their places are taken by others journeying south. When with us they rarely leave the sea shore. Many seem to pass on without resting, as you see and hear them flying high in the air, apparently flying great distances. Most of those obtained in autumn are young birds of the year. It may be some of the birds of the preceding year do not breed the following one, which may account for some being seen nearly all summer. It is singular this bird gets so little summer plumage generally, and it is also singular why it does not like the Curlew remain and breed on our moors. It appears some remain and breed in the northern Scottish islands, which are perhaps the southern boundary of its breeding belt of ground. I am informed this bird is rarely seen on the Cumberland coast in autumn, at least James Cooper told me he never saw it on the Solway shores at that season. I have often found dog crabs of considerable size in their gullets, which they had swallowed whole. Faber observes this bird is very common in Iceland during the breeding season. When flying over in autumn if you can hide yourself this bird is easily called by imitating its peculiar cry, but on the extensive mud flats at Holy Island it is generally a wary bird, and will rarely let you approach it.

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The young birds seem always to continue their migration before commencing any autumnal moult.

Sept. 2nd, 1878.—A mature Whimbrel shot at Holy Island was very fat. It had not moulted a feather. The breast was bare, showing it had sat on eggs during the summer. I think this bird would have passed on in its migration before moulting its quills, as I never saw one moulting its quills, nor did I ever see an old bird killed in this country in autumn having moulted, and certainly in the north of England it is never met with in winter.

On August 1st, 1844, I got a young bird at Hartley.

On August 26th, 1851, I got a mature Whimbrel at Bates Island. It was moulting on its back, and the new feathers were coming, spotted with reddish-brown like the plumage of the young bird but darker. It apparently had been partially moulting for some time, as it had many feathers similar to those coming. The remainder of the plumage which had not been renewed was very much worn and faded. This bird showed that it had commenced to moult during summer, and that the early feathers changed had come in what might be supposed to have been its summer plumage, that is supposing the species had a summer plumage. Now I remember having seen many Whimbrels in spring, but I cannot call to my recollection ever having seen one with what might be called any change to summer plumage on the back; all on the back, so far as I remember, showing only the worn feathers acquired at the autumnal moult the previous year, and without change of colour except by wear, the breasts being more or less spotted with grey only. Probably if such an occurrence ever happened as a moult of the back feathers in spring in this species they would come with rich-coloured spots as in this bird, which had begun to moult during its summer condition. I think, however, that by the time this bird had finished its autumnal moult these rich-coloured spotted feathers would have altered in appearance, and would have formed a portion of the bird's regular plainer plumage of winter. Why does the Whimbrel not get a decided summer plumage?

I find I have seen Whimbrels on 1st July. Indeed some depart so late and others return so early they are hardly ever entirely away.

12th Sept., 1886.—At Jarrow Slake with Mr. Hancock, when he shot two young Whimbrels, and we also got a young Grey Plover. Suppose anyone now going to shoot at this place, which is converted into docks.

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### WOODCOCK.

No. 1.—White variety, said to have been killed at Gosforth many years ago. I bought it from the agent at the colliery.

No. 2 was found dead by my daughter Lottie on the shore in October several years since.

May 6th, 1859.—Saw at a game shop in Newcastle a young Woodcock nearly able to fly.

Sept. 28rd, 1868.—Examined one at a game shop. Unable to say old or young bird. Tail moulting, but otherwise in good feather and not moulting.

Sept. 14th, 1869.—Examined a Woodcock in good condition. Moulting all over except quills. Tail about four feathers full grown, others various lengths, some only appearing through the skin. Probably an early young bird acquiring its winter plumage.

As is well known most Woodcocks come over in autumn during gales from the east, which usually bring more than during westerly winds. Should a gale shift to the west those which came over during the morning may be seen skimming over the ground close to it, flying against the wind, making their way inland just after twilight, as they rise to clear a hedge or fence in their way after the day's rest.

The old Woodcocks seem to have completed their moult to their winter plumage before migrating to us, and most of the young birds also seem to have acquired what new feathers they require before winter, before coming to us; but this is not always the case, as I have sometimes seen young birds moulting their

tail feathers when they arrive. I saw a young Woodcock killed at Urpeth in July, 1852, and from it it would appear the young bird moults its wing coverts soon after it is feathered. This bird was dark-coloured generally, the wing coverts being much darker than they are in the birds we get in winter, and even so early as this several new feathers were coming of the ordinary colour. I think from this that the young Woodcocks generally moult entirely except primaries and secondaries before they come to us, retaining these till the following autumn.

I have now a nest of four eggs of this species with a letter from the then Mr. Raleigh Trevelyan of Netherwitton, dated 19th April, 1889, which accompanied them, when he sent them to me. At that time they were considered very great rarities. The old bird flew from the eggs when a tree was felled, and she forsook them in consequence.

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## GREAT SNIPE.

### YOUNG OF THE YEAR.

No. 1.—Shot near Elsdon, Northumberland, Sept. 4th, 1889.

No. 2.—Scotswood, 18th Sept., 1840.—This bird had some of the nest down remaining on its thigh, a proof of its being a young bird, if such proof were necessary.

No. 8.—Bought in a game shop, Sept. 28rd, 1868, was set up by Duncan.

Nos. 4 and 5.—Males in summer plumage. Probably not altered from that obtained by the old birds on the completion of their autumnal moult except by the wearing of the feathers. These I purchased in Leadenhall Market, April 21st, 1842.

As in the Common Snipe the young of the year are readily known from the old birds, which appear to avoid England entirely at all seasons. I have never seen one killed in England, and all the young birds of this species I have seen are in their first feathers, not even one being cast in getting the additional clothing of winter which Snipes begin to acquire soon after being



of their full size. This shows the early and complete migration of the species before any frosts set in. Probably the young of the Great Snipe are later in beginning to acquire a winter plumage than the Common Snipe, in consequence of the late season when they are hatched, their belt of breeding ground being further north generally and the old bird arriving at it late in May, the Common Snipe often having young by the time the Great Snipes are arriving at their breeding grounds.

Sept. 20th, 1886, I saw one.

Sept. 4th, 1846, one shot at Chesters.

Sept. 17th, 1875, bought one at a game shop.

One of these I saw hanging at a game dealer's shop, which I bought, the man remarking it was a very fine Snipe, which it certainly was. It is the third I have accidentally met with sent for sale with other game. I took my bird to Duncans to be preserved when he shewed me another which had just been sent to him.

I might remark that after both the Great Snipe and the Common Snipe once cast their first feathers they never again get others exactly resembling them. In the young birds of both species the pale stripes on the back are much narrower than in the old birds. Many young birds of the common species have commenced to moult on the back by September, and the feathers taking the place of those being cast are edged much more broadly with pale colour. I find the earliest date on which I have noticed this species appearance with us is the 5th of Sept., and none later than the end of the month. I only remember one occurring so late as first few days in October, and it had been previously wounded. What brings stragglers of this species to us at all is a mystery. Supposing those which visit us come from Sweden on their southern journey, why do they come so far westward? When they cross the sea, what teaches them that they will find land in this direction? Why should they not just as likely be driven out of their course in spring as in autumn? Instinct seems to draw them to their breeding grounds, and there only in spring, but in autumn it takes them

in whatever direction they are likely to procure food, or at any rate to go in search for it.

It is quite clear that unlike the Common Snipe and the Jack Snipe this bird is a very delicate species, and takes care to leave climates similar to ours before the slightest approach of winter, and does not return to its breeding grounds till all chance of frost is past; but where they spend the time between leaving us and other countries similarly situated, and returning to their breeding grounds in spring, or whether they keep continually moving in any or what direction, does not seem to be yet known.

Whenever found with us this bird is enveloped in fat much more so than the Common Snipe is so early in the season, one would suppose that their being in such high condition, showing that there can be no scarcity of food, it would induce them to remain longer with us; but their not doing so I think shows that food only is not the cause of the migration of birds. It probably is in a great measure but not entirely, or why should many of our winter visitants leave us at the time when food is becoming more abundant daily?

I used several years ago to very frequently visit Leadenhall Market for the purpose of looking at the enormous quantities of wildfowl, and the rare birds. In the month of April, 1842, I happened to be present when a great quantity of snared Snipes arrived from the Continent, from these I picked out the two of the present species I now have, and I well remember the pleasure it was to me to get hold of what I then considered such rare birds recently killed, they were so clean and looked so beautiful. These were both males, but they differ considerably from each other, the one being much more spotted with white on the wing coverts than the other, and having much more white on the breast, the centre being pure white, and the darker bird being also less conspicuously marked in the centre of the lower portion of the breast than some of the young birds are. Since that time much information has been gained respecting this species. Formerly it was uncertain whether it was not merely an accidental variety of the Common Snipe, but at the present day all

who have paid any attention to birds are better informed, or at any rate should be.

The presence in Britain of young birds only, of this species, leads one to suppose that the idea entertained by many persons that old birds show their young the way on their migrations is quite untenable, and proves beyond question that the individuals having been killed in Britain cannot possibly lessen the number of those which might come in future years. The species probably never was or will be either rarer or commoner than it is and has been and will be in this country.

On the 21st October, 1865, a communication from me, headed "Stray thoughts about Birds, their Migrations, &c.," appeared in the *Field*, in which I suggested that the birds of England might be divided into four imaginary groups. 1st—Those which remain throughout the year. 2nd—Those which come to us in summer. 3rd—Those which come for winter; and 4th—Those which come but remain neither summer nor winter. The fourth I suggested might be divided into those whose visits are periodical and possess some degree of regularity in their passage to and from their breeding places, and those which come only at uncertain and irregular periods. The Great Snipe certainly appears to belong to the former division of the fourth group, it being neither a resident, a summer visitant, nor a winter visitant, but an occasional periodical straggler, several years passing without its being observed, but its appearance appears to be strictly periodical when it does come.

Since the foregoing notes on the Solitary Snipe were written Major Russell was good enough to send for my inspection two skins of birds of this species, which were shot by him in South Africa in the month of October. They were mature birds, and at that time moulting their quills. From these birds being met with so far south at that season one almost comes to the conclusion that during our winter they wander over a very great extent of country, instinct taking them in such directions as are convenient for them to find such food as they require and as is produced in the countries they fly over. One of these birds at that

late season had five primary quills to cast on each side, the other had three to cast; the former seemed moulting more completely, the latter not apparently moulting the outside quills, though the changed ones adjoining had come to their full size, the new quills being blue the old brown and worn, showed easily the difference; and it would almost appear that in this species the moulting of the flight feathers is very gradual, so as not to prevent the bird being able to fly over a great distance at any time in search of food.

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#### GREY OR BROWN SNIPE OF AMERICA.

The only bird of this kind killed in England I ever saw was in the collection of the late Mr. Heysham of Carlisle. On his death his brother asked Mr. Hancock to come and see the birds previous to their being sold, and he was good enough to ask me to accompany him, which I did, June 2nd, 1858. Amongst his birds was this one. It was then in a most dilapidated condition, the head being separated from the body. Knowing the previous history of the bird from James Cooper of Carlisle, who shot it, I was very anxious to have it, he having shown me the spot on which he shot it. He was sitting behind a bank at a very high tide and it settled beside him. Mr. Heysham considered it better the whole collection should be sold, which it was, in London, on the 11th May, 1859. I had a catalogue sent me, but I could not trace this bird. I wrote about it to Messrs. Stevens, but to no purpose, and I presume from its state it had been overlooked and probably not identified, and considered worthless and never been packed up. I described it, and asked if it could be found to have it purchased for me at the sale, but received no intelligence of it, though I got the young Black-tailed Godwits, and the summer plumage Little Stint, all shot by Cooper at the same place, which I now have. I have a letter from Cooper, dated October 4th, 1839, in which he says, "On the 25th Sept., 1835, I killed a bird I have never seen either before or since; "it was just about the size and make of a Common Snipe. I

"cannot remember the colour rightly, but I think the back was  
 "a kind of olive brown and the under parts of the body a sort  
 "of drab colour; the tail, however, I well remember was com-  
 "posed of stiffer feathers than that of a Snipe, and beautifully  
 "barred with blackish brown and white, something like a Red-  
 "shank's tail, but the bars were finer. Mr. Heysham, who got  
 "it, said it sometimes was called the Grey Snipe." This bird I  
 saw in Mr. Heysham's collection during his lifetime. There was  
 also a summer plumage bird of this kind in Mr. Heysham's col-  
 lection, but this was not the bird Cooper shot.

I still have the sale catalogue of Mr. Heysham's birds, and  
 the only specimen of this species mentioned in it is 145—  
 "Brown Snipe, summer plumage, very rare in the north, shot  
 on Rockliff Marsh," but that was not the bird shot by Cooper,  
 which was a young bird of the year. I remember perfectly the  
 summer plumage bird, which I have not the smallest doubt was  
 an American specimen; but no doubt it figures somewhere as  
 Mr. Heysham's British-killed bird, showing how easily mistakes  
 in individual birds identity occur, and the method by which  
 some foreign birds get admitted as British which never should  
 have been. I almost believe this species has never occurred in  
 England except in its young plumage during autumn. The  
 young of all kindred species seem to be greater wanderers than  
 the mature birds. From the date when the bird was killed,  
 25th Sept., the bird would not be in its summer plumage. The  
 bird Cooper shot was set up by him.

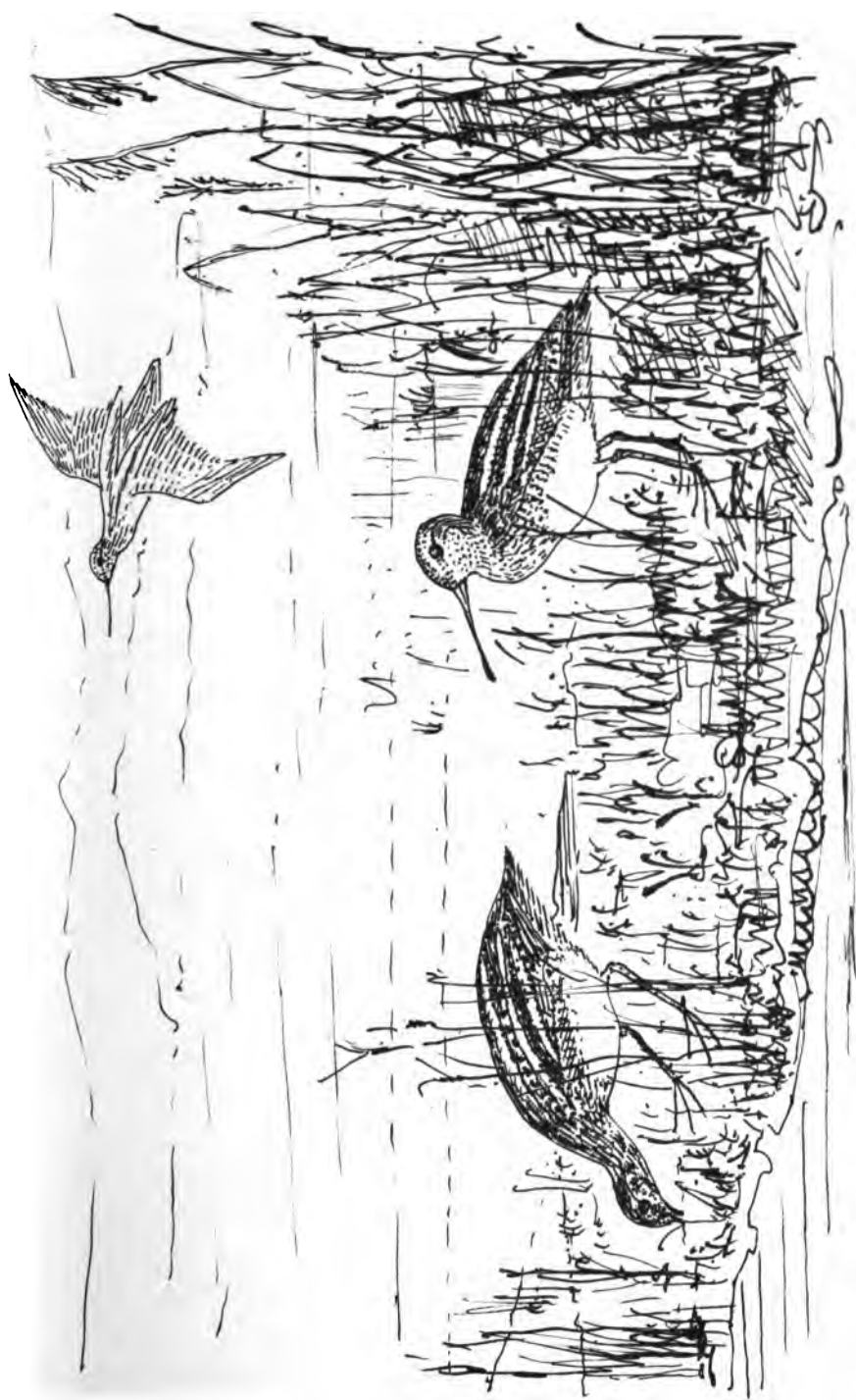
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## COMMON SNIPE.

### YOUNG OF THE YEAR.

Two killed at the edge of Skinburness saltmarsh, September,  
 1844.

The habits of Snipes and Woodcocks seem to make it desirable  
 they should not change the colour of their plumage with the sea-  
 sons, and their not doing so shows how beautifully and wisely





things are adapted for their preservation. Snipes, as is well-known to all sportsmen, are extremely shy birds, and seem to have the greatest aversion to be seen on the ground by man. Upon the slightest noise being heard they immediately conceal themselves in the herbage, where they remain motionless unless and until flushed. Sometimes, however, in autumn and winter all on a bog will rise together instead of crouching. The variations in the plumage of Snipes at any season or age are so inconspicuous that a casual observer would see no difference. The young birds of the previous summer probably moult gradually all their first body feathers, from September till over the next summer, acquiring their complete renewal at the same time, as all the older birds do, by their regular autumnal moult. I think all the Snipes, after the moult the year after being hatched, moult in autumn only, and that their only change to a summer plumage in spring is caused by the wearing and fading of the feathers.

Some Common Snipes in this neighbourhood lay as early as the middle of April, but some much later, and as with some other kinds of birds the time may vary in consequence of the age of the birds, the old birds and those early bred of a former year breeding earlier than those later hatched, or it might arise from the first eggs having been destroyed.

When prowling about studying Nature I have occasionally but rarely come on a Snipe walking on the mud at the edge of a rushy place, and have seen it run away and hide. I can call to mind a few instances of having done so. I have also many time crept to where I knew Snipes were and put up my head as cautiously as I could, but they evidently saw me, and squatted before I saw them, as although I looked carefully I could see none, but on walking to the spot thinking none were there several have flown away.

Long ago, in early winter, while shooting on Fenham Flats, between Holy Island and the mainland, by moonlight, I often heard and flushed Snipes, which must have come down from the land to feed when the tide was out. I could not of course see



them but their note could not be mistaken. I never met with one in such a situation in daylight. The notes of the Pewit, Ring Dotterel, Dunlin, and Curlew are often heard under similar circumstances, together with the whew of the drake Wigeon and the hoarse quack of the duck, and the more modified note of the Wilddrake, often also the trumpet of the Heron. I have also heard Snipes come to the seashore at Loch Riddan head in Scotland at night in winter.

Snipes, so nearly allied to our common one as hardly to be distinguished from it, seem to exist in various parts of the world. Are they the same species, and merely varieties caused by local circumstances, or are they different species? Who can tell? I think they are species, as it sometimes happens two different varieties or species occupy the same ground, and are met with indiscriminately, for instance, the Pintail Snipe of Asia, and one somewhat similar to ours also with the ordinary Snipe's tail. What can be the meaning of the tail of the former? which, however, shows no affinity to any other species or genus. My son in Burmah meets with the two kinds in the same places on the same days. He says he now knows the difference at once when they rise. Probably the Asiatic Common Snipe is different from ours, as is also the American one. They are true typical Snipes, and so would the Pintailed bird be were it not for its eccentric tail. Though the Great Snipe from South Africa seems identical with our Great Snipe, the Common Snipe there appears different from ours. Perhaps it is the same as the common Asian Snipe. It appears more nearly allied to the Great Snipe than to our Common one being altogether stouter.

Snipes appear to arrive in Burmah by the end of July. My son sent me the wing of one then shot, which he said was one of the first he had seen. This wing is that of a mature bird moulting its quills very gradually, there being no large gap in the wing, the next old feather not apparently being cast till its neighbour had come to its full length. From this it would appear that the Asiatic old Snipes migrate before getting through the moult, and do not moult their wing feathers so suddenly as

our species does, in consequence of from perhaps some local cause it may be necessary for them to migrate earlier than ours. This wing is in precisely similar condition to the wings of the Great Snipe killed in October by Major Russell in South Africa, showing the same condition of moult, but at a difference of time of three months. How can this be accounted for? Asian Snipes apparently are subject to precisely the same sort of migration as those of Europe, coming south so soon as the breeding season is over, and retiring northward to breed so soon as the frost and snow have disappeared, thereby enabling them to get food at their breeding places.

I confess Major Russell's and my son's Snipes' wings are at present unintelligible. In both cases some large quills have been renewed, but at such different seasons; and although the renewed feathers, as shown by their freshness and colour, have come to their full length, those adjoining are not cast, showing at any rate that the moult, if intended to be a complete one, must be very gradual and last over a length of time.

Major Russell informed me the South African Common Snipe weighed five ounces.

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#### JACKSNIFE.

Two killed at river side, near Scotswood, Sept. 20th, 1840, the other, flying, shot at Low Gosforth, Dec., 1860.

I see from my note book that the late Mr. Wm. Brandling and I shot three Jacksnipes at Prestwick Car, 16th Sept., which I considered a very early date, in 1850. I have frequently met with them about the end of the month.

I once caught one in the snow, which my dog pointed. It was at the side of a ditch. My man being at the opposite side saw it, and he directed me to the exact spot, at which I quickly caught it, though I did not see it till I had hold of it. We brought it home and fed it on worms in bread and milk. It only lived a short time, though it ate the worms greedily.

This bird is truly a winter visiter here, and in that respect differs materially from the Common Snipe, which in the northern part of our island is a common summer visiter and still breeding almost wherever a suitable situation is left for it. It generally arrives here towards the end of September or beginning of October, and although they remain during the winter and some few until far into the spring months of the succeeding year, no instances have occurred which indicate that it ever breeds here. I have seen eggs more than once said to belong to this bird, but they have always been those of the Dunlin. I am not sufficiently acquainted with the plumage of the Woodcock and this Snipe to say whether those which come to us in the early autumn are generally young birds, as is the case with the most of the scolopaceous tribe which visit us at that time, indeed it would be very difficult to know, as there is not such a striking difference in their change of plumage as in the others, but it will probably be the case.

This important but insignificant bird, though a Snipe, might be called typical, but as a species, but not of a genus. He seems to stand alone, no other kind of Snipe apparently being nearly allied to it than another, and though the tail apparently allies him to the Rails, yet what a wide difference there is between him and them.

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### REDSHANK.

#### YOUNG OF THE YEAR.

1.—August 19th, 1846, Hartley.

#### WINTER PLUMAGE.

##### *Male and Female.*

The female with the wings up.

2, 8, and 4.—January, 1849, March 9th, 1840, and Feb. 7th, Fenham Flats.





## SUMMER PLUMAGE.

*Males.*

5 and 6.—Leadenhall Market, 25th March and April, 1842.

It would appear from their sometimes acquiring the summer plumage at this early date that this species will sometimes breed early. Probably the further south they breed the earlier the summer plumage will be acquired.

Redshanks used to arrive at Prestwick Car to breed at the end of March. I have seen several 5th April, and on May 1st I have found their eggs, and on the 7th July, 1866, young could fly at Grindon Lough.

It seems astonishing this species is as common as it is. The quantity of its eggs I have seen in Leadenhall Market long ago would lead one to believe none could be left. From these I have many interesting varieties, some nearly white and others richly blotched with dark brown. The belt of ground on which this bird breeds probably extends far south of the tract inhabited by the Spotted Redshank and the Greenshank, though in some districts that of the Redshank and Greenshank may meet, and probably the Redshank is not such a common species farther eastward as they are; but still when the enormous extent of ground this bird breeds at, wherever suitable localities occur, is taken into consideration there can be no fear of its becoming a rare bird, though it may be driven away from large tracts of country by the reclamation of the swamps; even where the eggs are gathered for sale so soon as they become so scarce as to be not worth looking for then the birds would again begin to increase if the land is favourable to the birds' requirements.

What a pretty bird this is. We will begin with the young in its spotted plumage, in which state it comes to the seaside so soon as ever it is able to fly, sometimes as early as the middle of July if they get their early broods away, when it enlivens the shores with its lively cry *tee hee hee*. How soon after its appearance it begins to acquire its greyer winter plumage. No sooner has the bird completed its first prettily-spotted plumage than on

the back the broader feathers of winter begin to grow, and by the end of September the early-hatched birds have very nearly lost all distinguishing trace of their young plumage. The centre tail feathers are soon cast in the young of this species and the others soon afterwards. The change from young to winter plumage appears more complete than in many other waders, and sometimes it is no easy matter to determine an old from a young bird in October.

It is a resident in England, but is now during summer in this immediate neighbourhood almost unknown, there being no places left suitable to its habits at that season. It breeds in Scotland and the islands north, as well as Holland, Iceland, Norway, and many other countries. The young birds are common on the coast during early autumn, and throughout the winter it is common. It is a very pretty lively bird, and his shrill cry, which he seldom rises without emitting, cannot fail to attract attention. I have observed that in winter, even in open mild weather, when all birds are very shy, sometimes when fired at, at a distance, it will fly directly at you screaming out, giving you a chance with your second barrel, but at such times I know it is very difficult to hit him.

Feb. 15th, 1845.—I examined twenty-two Redshanks which had been sent from the Solway; the majority were birds of the preceding year. The females measure about an inch more across the wings than the males, and are likewise a little longer. Even at this early time one of the males had advanced far in getting its breeding dress.

It appears to be a summer visitor to Iceland, arriving in April and after breeding generally departing in the end of September.

I remember seeing a curious instance of the pale red colour in a young bird which was sent from Iceland in 1844. It was just fledged, and had more colour on the breast than the young Knot has.

I might add I have not met with an old Redshank killed on this coast in August or September losing its summer plumage by

moulting. What becomes of the old birds at that season? Where do they moult?

Sept. 30th.—Shot an old Redshank, which had completed its winter plumage with the exception of a single tertial corresponding on each side. The two centre tail feathers ash colour but barred, and the rest of them stronger marked than in the young birds, and the under tail coverts much more strongly marked.

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### SPOTTED REDSHANK.

#### YOUNG OF THE YEAR.

- 1.—Prestwick Car, August 9th, 1848. Sent to me next day by Mr. Richard Reay of Berwick Hill, who had shot it.
- 2.—Holy Island, August 20th, 1878.

#### WINTER PLUMAGE.

##### *Female.*

- 8.—Leadenhall Market, 26th Nov., 1841.—Was told it had been sent direct from Norfolk.
- 4.—Another sent to me from same place, Nov., 1844, as I had requested to have another so soon as it could be procured.
- 5.—Another assuming its winter plumage from the old bird in summer, after referred to.

#### SUMMER PLUMAGE.

- 6.—A skin procured from Mr. Leadbeater of London in 1842.
- 7.—A skin from France from Mr. Hancock in 1848.
- 8.—A skin from India also from Hancock.
- 9.—Male bird moulting to its summer plumage. Leadenhall Market, 21st April, 1842. I was told it had been sent from Sussex, but it is not easy to say where these birds come from.

Now what do we know of this fine bird's migrations? In summer perhaps it inhabits and breeds at a broadish tract of country not so very far north both in Europe and Asia, but still

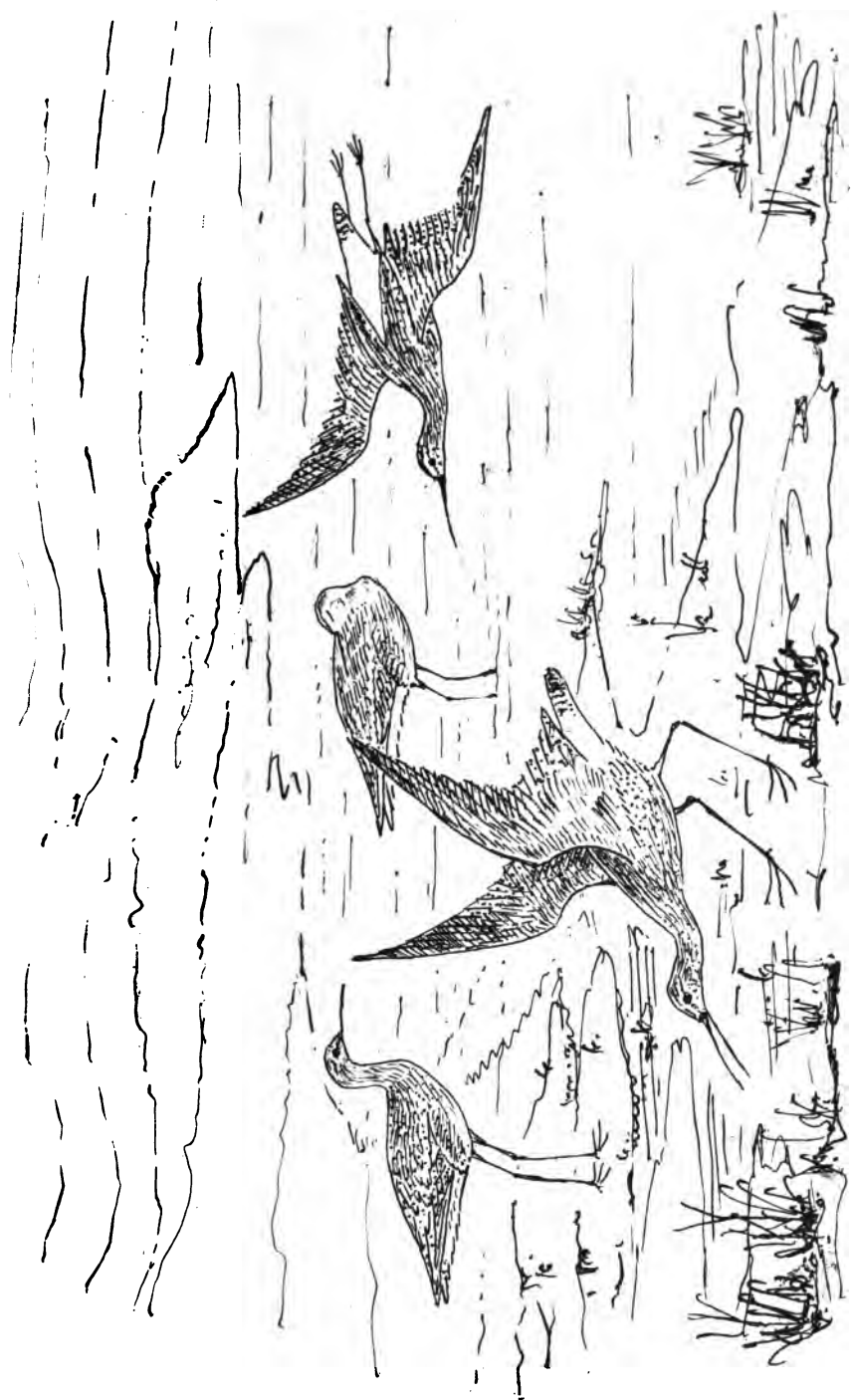


much further north than our island. So far as I am able to make out its exceptional visits in our northern counties are during August only, and these are exclusively young birds hatched that year. None of the few I have seen have changed a single feather from their first plumage. Now this points out a pretty regular migration of the species southward very early, those coming here probably being stragglers only from the bulk keeping further east. But why do no old birds come? and how short a time these young birds rest here is proved by every one proceeding on its journey previous to commencing to get its winter plumage, which they would do in September. I was told the young birds are not met with in Leadenhall Market in August, but a chance one or two are sometimes sent there in November and again rarely in April; but it is by no means certain all these are British-killed birds. The November birds I have met with there are birds of the year, having nearly acquired their winter plumage, but still having the feathers of the young bird remaining on the wing coverts and tertials, and a chance smoky-coloured feather in their breasts. Yarrell's figure in the winter plumage is such a bird. The tertials in it show this.

From what we find written of this bird's appearance in England we have the young in August (and occasionally in September if the dates are correct), then occasionally in October and November; after this it seems entirely absent till a chance bird or two appear in April or May, most likely on their road to their breeding grounds in the north of Europe. It would appear it is not able to bear severe frost in consequence of its principal food being derived from fresh water—in this respect being unlike the Common Redshank.\*

It would facilitate matters much if one could see birds which had been killed further south in England, if such occur, later in the season, to ascertain if they are half changed from their young to their winter plumage; but I almost think they arrive in the

\*Stevenson in his "Norfolk Birds" alludes to Mr. F. Harmer's account of killing two of these birds in May, 1862, written in answer to the inquiry about them made by me in the *Field*.





south as early as they do here when they do occur there, and merely pass on as they do with us, hundreds of miles being as nothing to them ; one flight accomplishes this distance with ease. Mr. Stevenson, in his "Norfolk Birds," records the capture of two flocks of these rare birds by nets ; one of nine, but without stating the date, and the other of eight on the 11th of October, 1849, two of which are stated to have been changing from summer to winter plumage, the rest as having assumed it, but it is not stated whether old or young birds, but probably the latter. Now I do not think it possible that these flocks had remained in England any length of time, but probably they had wandered here by accident. Certainly they were created wanderers, but though wanderers still they have limits from which they rarely pass. England appears their western limit, but the eastern limit is extensive, and probably it is a very common species breeding over large tracts of country in Northern Europe as well as Asia,

I have doubts whether the bird mentioned by Bewick as killed on this coast in September was not a late-hatched Common Redshank in its first plumage, which is then much spotted ; the white breast mentioned rather points to this, as neither the old nor young of this bird would have a white breast at that season, and even if the breast had by any possibility become white, as in the winter plumage, the back would have been also plain grey, as in winter. His figure of this bird (not from the one above mentioned) is a most elegant drawing, representing this elegant bird's first plumage as we see them here whenever they are met with in August.

The bird I got in the London market in November had been feeding on beetles, and in the one I got there in April I found a fresh-water shell, a *planorbis*, and the gizzards of my young birds were filled with such substances as you often find in those of the Ruff. From these circumstances and from the young birds shot here having been generally killed at pools of fresh water, I think the present is much less of a sea bird than the Common Redshank, and probably never settles on a rocky shore as it often does.

Why are the migrations of birds so regular and yet so irregular? How is it one of these birds by chance does not come into Northumberland in spring as well as in autumn? They are out of their way at best. But why keep so consistently out of their way, or why come at all? It is no less surprising than true that rare birds like the present species when they have been killed at a certain place once, at the same season of the year others will cast up again, perhaps some years after, and sometimes although exclusively birds only a few months old, how do they find the particular place, none of the species having been seen or met with within miles? Their not casting up again I think often tests the authenticity of some birds said to have been killed in England. If one bird of a species ever found its way here naturally, the chances are others would do so in like manner, and from their not having done so I should be jealous of admitting any unique bird unless it could be traced most satisfactorily; I should not be satisfied unless the identical bird was seen recently killed by some one who knew it. Birds set up in a case with a label will not do, as the bird might have been changed either intentionally or otherwise.

One of the Spotted Redshanks I have was killed in April, and which I got in Leadenhall Market, has the head and neck black;\* the breast is only half-changed to summer plumage. I well remember the pleasure it was to me to get this bird so recently killed. It was even yet stiff. No one had touched it from the time it had been shot. I was surprised at the dark colour of its legs and its exquisitely graceful shape. Yarrell says he retains the name of Spotted Redshank to this species as the legs are always red. He had evidently not seen a recently-killed bird in its summer plumage. A short time before this I had procured from Mr. Bartlett the bird No. 5, it is the one Yarrell mentions as having been got in Leadenhall Market, that wonderful receptacle for rare birds; it is half-changed from its summer plumage. He had set it up. At that time it was not so easy to see even skins of this species, and I still have one I got from Mr. Leadbeater.

\* In the plumage described as the Black-headed Sandpiper.

quite black, which I considered a great rarity at that time. I have a dark bird killed in spring in its summer plumage, but which I think is evidently a bird of the previous year, as it still has the wing coverts of the young bird, except two or three new feathers which have come black amongst the other much worn feathers.

On the 19th August, 1840, James Cooper, who I have sometimes mentioned, wrote me that he had been down to the marshes for the last time on Friday, as he was going to leave Carlisle in a few hours. The total stagnation of the cotton trade had left his family without the means of procuring a livelihood, and for their sakes he was compelled to forego that employment of which he was so extremely fond, then he says, "but I forgot to tell you of my Friday's journey. I set off at four o'clock A.M., examined the creeks on the east part of the marsh, where I formerly got the Temminck's Sandpipers, but saw nothing; had just got to where you and I crossed the sands to where we got the Dunlin's nest when it came on a tremendous storm of hail and rain, and wet me so completely I was obliged to turn back. When I arrived at Rockcliffe the day began to clear a little. I went up Eden side, and about three-quarters of a mile above Rockcliffe I saw a Spotted Redshank, which rose and flew towards Sandsfield. I followed down again as far as where we got the Oyster Catcher's nest, but could not see it. I saw nothing else worth shooting." I had offered him a large price for a Spotted Redshank, being then very desirous to see a recently-killed bird, which I hardly ever expected to do. Cooper said he would write me from Lancashire should he meet with any birds I wanted, but soon after this I went to London for about two years and lost sight of him. In another letter from Cooper he says he stuffed one for Mr. Heysham in 1829, killed at Cardonick, and that he had seen another in 1833, but does not mention the dates of these. I quote his letter as I think it may be thoroughly relied on, and it corroborates the exact time that this species is met with in the north of England, and even Mr. Thompson, in his "Birds of Ireland," appears to have killed this rare bird at the exact season.

My son in Burmah meets with this species, he having shot two in March, 1880. Probably this species is as abundant as the Common Redshank, being more numerous than it further east, and probably its nesting ground commences where that of the common one leaves off, I mean northward and southward, and it extends over the greater portion of the northern Asiatic wastes as well as those of Europe. Neither this bird nor the Greenshank seem to visit Iceland, it being probably too far west and out of the way of their migrations.

August 20th, 1878.—Two birds flying high over Holy Island came suddenly down and settled about one hundred and fifty yards from where I was sitting. I heard from their note they were unknown to me, the note more resembling a Green Sandpiper's two notes not very loud, and not resembling those of the Common Redshank. I allowed them to settle quietly, and then surveyed the ground to see what could be done. I saw by creeping I could get a very long shot. I started to the point, and on getting there I saw they were in line, one in the shallow water the other on the edge. I fired a wire cartridge from my old gun, and contrary to my expectation one only rose and went straight away, the other jumped up but fell struggling in the water. I ran as hard as I could, as I knew I had a prize, and having so often lost birds when wounded rising again I was anxious to secure it. A single shot had however hit it in the head. On coming up I confess I was puzzled. It looked like a small Whimbrel, the dark crown of the head and the spotted back, and the under mandible was not red but livid; the legs were hid in the water. On lifting it from the surface its long red legs revealed the secret, and no description I can give can convey the sensation I felt in having shot and secured a wild rare bird like this the first time in my life. I am not prepared to say what the other bird was, but I think they were alike. Singularly enough, knowing it was the very time for the autumnal migration of this bird, the evening before I told one of my children it was the very place for one, but to have met with one and secured it the following day was surprising. It fell within a few

yards of where I got the Wood Sandpiper on the 16th August, the previous year.

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### GREENSHANK.

#### YOUNG OF THE YEAR.

- 1.—August, 1888, Brough Marsh.
- 2.—July 28, 1889, ditto.
- 1 and 2 (a).—Holy Island, August 25th, 1879.

#### WINTER PLUMAGE.

- 3.—From coast, November 10th, 1848. Female.
- 4.—Fenham Flats, February 14th, 1845.
- 5.—Holy Island, November 14th, 1845. I think this is an old bird, but the outside quill feathers and the centre tail feathers had not come to their full length; the breast was also moulting. It flew quite close to me where I was concealed and was much smitten with the shot. The other two are apparently birds of the preceding summer, the wing coverts being those of the young bird.

#### SUMMER PLUMAGE.

- 6 and 7.—Male and female, Leadenhall Market, May 8th and April 25th, 1842.

I saw several others about the same time. The male in this instance was the larger bird of the two; this might be accidental.

The young Greenshanks seem to pass during their autumnal migration quickly, that is not tarrying here long during it, as I have rarely observed one assuming or having assumed its winter plumage, which they would do by October.

The old birds do not seem to pass here, as I have never seen one obtained either in spring or autumn.

I have seen these birds at Gosforth Lake in August, on the 11th and 18th, in 1863 and 1866, and on August 24th, 1869, I



saw several Greenshanks at Gosforth Lake. Of a flock of ten or a dozen birds, some appeared as they rose much darker in colour, five were certainly Greenshanks, the greater portion of the flock were as large but had a different cry. The larger lot left on being put up; I think they were Spotted Redshanks. Two of the Greenshanks remained till late in the evening, and when we were setting pike lines I saw them sitting quietly on the edge about fifty yards off. We pulled the boat quietly to see how near they would let us approach them. They remained till we got within fifteen yards before they flew. There were also two smaller birds with them, probably Wood Sandpipers. They all rose from the black mud at the water edge.

On August 25th, 1879, whilst prowling about looking for strange birds at Holy Island I looked carefully over a wall at the Lough side. As usual Water Hens flapped away, and I thought there was nothing worth shooting; however I waited, and to my surprise I saw a stately-looking bird come from behind a hillock. At it I gazed with astonishment. It evidently did not see me; before I had time to consider another followed. I waited till they got near each other and fired. The one I shot at fell, the other seemed to take no notice of what had happened, but seemed still to walk leisurely on, even when I got within a few yards of them. I almost wondered it did not fly away, and was prepared to shoot it if it did. I thought it was astonished its companion did not fly away, and was unwilling to leave it; however on getting very near the reason was apparent. On one side the primaries drooped a little, but it never attempted to open its wings, merely walking on as I approached. On taking hold of it however I found it was severely wounded, but it was not knocked over, as I should have thought it would have been. As a penalty for having shot the birds I set them up; they are, as usual, young birds of the year, one considerably larger than the other. Both had commenced to change to their winter plumage, the heads and necks being very moulty, and the larger bird having many new feathers coming on the flanks.

It was an unusual sight thus to see these interesting birds,

and a very unusual occurrence to get both at one shot of a kind generally so difficult to get near. I feel certain they never observed me till they were shot.

Young birds are not very uncommon at this season, but they generally keep in such open places that they are unapproachable.

My son sent me feathers of a Greenshank from Burmah, shot 26th March. It had been moulting its scapulars, as several new feathers are not of their full length, and those coming appear as if changing to summer plumage, as they were growing.

In May, 1841, during an expedition I had with Mr. Darwin to the Kentish coast to look for Kentish Plovers, near Pegwell Bay we saw a man who set up birds. He had two of these birds recently skinned, shot on the 15th, which I bought, one of these Mr. Hancock afterwards got, and it is now in the Newcastle Museum; I afterwards got recently-killed birds in Leadenhall Market which I much preferred. We did not find the Kentish Plover but we saw some flocks of Red Godwits and shot some Dunlins still there in summer dress.

I have seen the young Greenshank and also the Pigmy Curlew young of the year with the legs thickened below the knee, merely I think a sign of youth, this would probably subside as the birds got older.

I shot a young bird at Hartley on the 8th September, 1848, but it did not differ from the young birds I had and I gave it to Mr. Hancock, and it is now in his collection. In those I have examined I found small shrimps. This bird also seldom if ever settles upon rocks but seems to prefer soft oozy ground. They seem to shun cold and almost all leave before winter. I think I remember seeing some at Loch Riddanhead in December, 1846. Why the old birds do not visit our shores in passing to and from their breeding grounds is more curious than the migration of the Spotted Redshank, it never breeding in Scotland whilst the present species does. Probably the belt of breeding ground of this bird is rather south of the Spotted Redshank's but equally extensive eastwards. I think this bird seems more partial to inland marshes and the muddy mouths of rivers than to the sea shores.

I remember in Leadenhall Market when some Greenshanks were on sale looking at and admiring them and dilating on their elegant shape, when the owner of the stall, whom I often talked to and who was generally glad to see me, remarked that they certainly were the thoroughbred class of birds, and reminded him of racehorses and greyhounds among quadrupeds.

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### GREEN SANDPIPER.

#### YOUNG OF THE YEAR.

One with the wings shot near Hornby Castle, Aug. 29, 1846.

One shot by Mr. S. G. Barrett at Prestwick Car, Aug. 17th, 1852, as it rose, when shooting Snipes at the side of the Car when flooded.

#### WINTER PLUMAGE.

Killed when at Ewart Park, Feb. 10th, 1854, at the Glen side. This bird uttered its cry on my catching it after being wounded.

#### SUMMER PLUMAGE.

April 26th, 1842.—Leadenhall Market. I was told it was sent from Norfolk.

On the 25th April, 1856, saw a Green Sandpiper at Gosforth Lake at the edge ; it looked quite grey, and was evidently in its summer dress. On 22nd April, 1857, we saw one at Prestwick Car when spearing eels, when we got one two pounds weight, it kept with Redshanks, was wild, and when it flew it uttered its cry *Te week*. I went three times to try to get it but was not successful as it kept at such open places.

Jan. 24th, 1855.—In going over my notes I find I saw one this day at Glenside at Ewart. Afterwards very severe weather, Tyne frozen over at Scotswood from 21st to 24th February.

Aug. 27th, 1855.—One at Prestwick Car, and I find from my note book they sometimes remain during September at the Glen side.

Aug. 8th.—Two Green Sandpipers at Gosforth Lake.

Aug. 19th, 1865.—In the morning a Green Sandpiper, young, was lying on the grass in front of our house. It had been shot at the burn side and had fallen dead. I gave it to Mr. Hancock.

Aug. 5th, 1866.—Mr. Bold of Benton sent me an old Green Sandpiper, the only old bird I have seen killed here in autumn, moulting quills, tail, and other parts.

While at Prestwick Car, on the 17th August, 1852, with Mr. Barrett he shot a Green Sandpiper; shortly afterwards another one rose from a pond side and alighted again directly. I tried to approach it, and as I was going up to it it rose, uttering its cry, and went away apparently out of sight, I watched to see if it would alight again further away. It flew very high in the air like as a Snipe sometimes does, and I had just given it up as out of sight when it turned round and came and alighted on the spot it rose from. It would not however allow me to get near it, and when put up again it went away. On my return it rose wild again from the same place an hour afterwards. The one he shot was shot through a fence and was winged only. When I went and took it up it also piped out very much. I saw one in October at the same place.

This bird can hardly be considered more than a periodical straggler here, as it is only rarely shot, but perhaps if looked for in favourable and local places in August and September it might be seen every year, but it is not easy to get one when wanted. In the more southern districts of England it seems to be oftener procured during winter than in this neighbourhood.

It seems also to have a very wide geographical distribution, and probably its belt of breeding ground extends from Western Europe to Eastern Asia, migrating southward very early, but it is a hardier bird than the Common and Wood Sandpipers, perhaps resembling the Greenshank in its ability to bear cold, but differing from it in this respect that it never appears at the sea side. My son says it is common in Burmah, but leaves the country to breed at the same time as the other migrating birds.

In August, 1878, during very high floods in the Tweed district

several Green Sandpipers remained about Holy Island for some days. I think they would have dispersed inland in ordinary seasons, but were detained in consequence of the bends in the rivers on which they usually like to remain being covered with the water. So soon as the floods abated they left entirely.

### WOOD SANDPIPER.

#### YOUNG OF THE YEAR.

- 1.—Prestwick Car, Aug. 9th, 1837.
- 2.—River side, Aug. 13th, 1845.
- 3.—Shot by Duncan on the Town Moor, Sept. 1st, 1864.
- 4.—Holy Island, 16th Aug., 1877.

Gizzards contain skins of larvæ of insects.

When I was carrying this bird till the blood ceased to flow to keep it clean I met with a seaside gunner and shewed it to him, asking him if he had ever seen one like it. His immediate answer was "There are plenty of them about in winter." Can anything point out more completely the little reliance that can be placed upon what you are told, than this, which is only a sample of what one constantly meets with. A bird whose visits are most exceptional here, and which are almost entirely confined to young birds in early autumn, whilst passing southwards to spend the winter, which it does probably in Africa.

#### WINTER PLUMAGE.

I never saw one killed in England. Perhaps it was never met with so far north, the belt of country inhabited by it being much further south at this season.

#### SUMMER PLUMAGE.

5 and 6.—Male and female. Leadenhall Market, 28th April, 1842.

I was delighted to get these, which were the only birds of this kind I met with there. When recently shot and when alive the

legs of this bird are not green as in the Green Sandpiper, but clay-coloured.

May 10th, 1857.—Wm. Hancock and I were at Gosforth Lake when we saw one of these birds. It was not wild, it was flying about, it settled and we got very near to it, within twenty yards, and looked at it through a glass. When it rose again it flew with a quivering flight high in the air, uttering a twittering note something like a swallow, the bars on the tail being conspicuous, particularly when seen sideways when the bird flew. The lake had been let off, leaving a quantity of exposed black mud, and amongst some hillocks of rushes the bird was. It would be most probably on its northern migration, as it had disappeared a day or two after.

This species, like so many others, occasionally passes us only in its young or first plumage during its autumnal migration. I have not seen one which had commenced to get a single feather of its winter plumage. On the 11th August, 1857, I think we saw three, but they were too far off to be certain about.

The reason why we so rarely find this bird on its northern migration is we are out of its way, its principal breeding ground being so much further eastward and northward, like that of so many of our northern breeding birds, and they then seem as a rule to fly direct, from where they have spent our winter much further south, to their breeding grounds, whilst the young birds in autumn migrating to their winter quarters are not so particular, as at that season they seem often to fly over a larger area of country, being merely in search of food on their passage southwards.

Another young bird was killed at Prestwick Car on Aug. 12th, 1840, but it seems to be a rare bird in England at all times. The difference between it and the Green Sandpiper is considerable, as you easily see in recently-killed birds the colour of the legs shows this at once, and the under parts of the wings and the narrow bars on the tail. Were this bird's visits not confined to particular seasons of the year one would be rather inclined to consider it a straggler only, but when one observes its appearance

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(though some years pass without any coming at all) always in the same month, it must be considered a periodical migrant, though irregular. It is quite evident that this exquisitely-formed species is an inhabitant of warm climates, and that it merely comes north for the purpose of rearing its young, and that so soon as ever the young are capable of taking long flights they betake themselves back to their native half-putrid swamps, where they can get an abundance of suitable food during the whole winter. All I have seen have been killed at some distance from the sea side. I do not think this species will ever be met with on the coast. Most all birds of this tribe change their habits during the breeding season, yet the Woodcock sometimes does not, as you sometimes meet with a nest in a wood which has been inhabited by them in winter, but the greater number of kinds by far of these tribes migrate northwards to breed and to places where they are not found during winter.

I would ask any sensible person fond of birds who has ever had a recently-killed bird in his hands, who has any eye for either form or colour, who would compare the pleasure he had on seeing a recently-killed bird to that on seeing a dried-up shapeless skin, even supposing it was that of a new species. I care nothing for varieties on account of their being such, but I can and do admire the form and colours of some of our commonest birds, such as the Redshank, the Teal, and many others. To talk of studying ornithology from dried skins. Why the person who did this only would not recognise the bird recently killed when he saw it. Besides this, though aristocratic ornithologists can go to a dealer's to buy foreign skins, how is the poor man to study the birds of his country, which he has a perfect right to do, so long as he does no harm to any one; and the poor man shooting a rare straggler has perfect right to sell it for the best price he can get for it. The rare stragglers come on purpose to interest us all, the poor as well as the rich. If our country has become too small for the population, that is no more the fault of the poor man than the rich, and the latter should show the former a good example by denying themselves some of their

luxuries to an equal degree, before they begin to control the harmless desires and pleasures of the poor by Acts of Parliament.

This seems an abundant and widely-distributed species, being excessively common in India in winter, migrating northward in spring. My son met with it commonly in Burmah in January, but it disappears before breeding time. It appears to occupy a wide belt of breeding ground probably in Asia as well as Europe. Unlike the Green Sandpiper it seems impatient of cold, and never remains during winter with us or in countries similarly situated, all hurrying away so soon as ever the young can fly, the old birds probably so soon as ever their young leave them and are sufficiently able to take care of themselves. I never heard of an old bird being met with here on migration during autumn.

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### COMMON SANDPIPER.

#### YOUNG OF THE YEAR.

- 1.—Skinburness, Sept. 8rd, 1844.
- 2.—Holy Island, Sept. 1874.

The winter plumage I have not seen.

#### SUMMER PLUMAGE.

8 and 4.—Males. Shot at Chesters, North Tyne, May 6th, 1847.

In 1851 I find we saw this bird as early as 17th April, when fishing at Weldon Bridge, on the Coquet, and on April 16th, 1876, some were at Gosforth Lake. On May 17th, 1867, at Sweethope Lake, we found a nest with four eggs. On June 24th, 1858, I found the young quite small near Harbottle, on the Coquet (pretty little grey things). These must have been a late brood, as towards the end of June and beginning of July I often hear the note of these birds when flying over in the evenings, evidently when leaving the breeding grounds, and at some



distance from them, no doubt preparatory to their autumnal migration if not already on it. At the same time I have as late as the first week in October observed a chance bird at Till side, and on the Solway shores in September, but so late as this they are scarcely in similar places as they choose for their nests. When met with so late they are generally on the muddy shores of sluggish streams, at similar places as the Green Sandpiper likes in autumn, and probably those then found have been bred further northward and later, and like the Green Sandpiper have only come here on migration. Had they been bred with us and early they would most probably have commenced to get some back feathers renewed. I have not seen one of these late birds commenced to moult before passing on. I have also sometimes seen one on the seashore at Holy Island as late as the middle of September.

This delicate little bird is a common summer resident in the north of England, arriving in April simultaneously at the bank sides of almost every small rivulet, where they breed and hatch their young. So soon, however, as these are able to fly, they appear, two or three sometimes together, at the seaside, often being on the rocks covered with the black seaweed, where they remain a few days, and then they retire to more southern shores to pass the winter. They seem to be not very particular about the situation of their nests. The eggs are often laid upon bands of pebbles or loose sand washed up by floods, which are sometimes covered with brushwood sparingly, sometimes on a bare rock, sometimes amongst the leaves of the Coltsfoot, and I have also seen the eggs on a grass bank.

I have often followed this pretty bird about a winding rivulet in summer, and I have been much pleased to hear it utter its lively twittering whistle, almost a song, when it rises. When flushed it seldom flies far, following the stream and flying very near the water, until it settles. If flushed again, it will perhaps fly again in the same manner to lead you away; but the next time you flush it it will most probably think it has got you far enough away, and on being put up again it will fly back over your

head to where you first found it again uttering its lively whistle. In Scotland they also breed by the edges of the salt water lochs. It evidently shuns the approach of winter. I have never seen one between October and April, and presume many of them migrate far south. In many places it is called Summer Snipe. When I have been near its nest I have seen it alight upon the thick branches of a tree, and from that situation watch me, uttering occasionally a note resembling *twee*, but when it rises it generally whistles its three quickly-repeated notes, and flies with jerks. When with us it frequents small fresh water lakes which have gravelly edges as well as streams. Should there be a boathouse or uninhabited place, and you are near its nest, although you are not noticing the bird, in its anxiety to get you away, you will hear its oft-repeated notes, and are at a loss to know where they come from, when at last you see it perched upon the top of the boathouse or some rail watching you.

All those I have seen on the coast before migrating appear to be young birds hatched that year. The old birds always seem to migrate before commencing their autumnal moult, indeed after once leaving their breeding grounds none but young birds of the year seem to be met with here.

My son sent me the wing of a young bird he had shot in Burmah on migration precisely as we find them here, that is before it had commenced to moult. Probably the belt of breeding ground is similar in Asia to what it is in Europe, many of the European birds migrating into Africa for winter, and the Asian birds going as far south at the same season; but probably they do not go far north in summer on either Continent, and the belt of ground inhabited by the bird will be similar for breeding, and also its southern migration for winter.

As I do not believe the Spotted Sandpiper ever came to Europe of its own accord, I merely mention that when I was young I thought otherwise, and at that time Mr. Audubon gave me two of its eggs, which I still have in my collection of those of British birds' eggs; one of these is figured in Mr. Hewitson's book.

I think it seems probable neither the Green, the Wood, nor

the Common Sandpipers are met with in America, none of them apparently migrating very far north to breed, and that their places there are supplied by distinct species. Had the Green Sandpiper really been met with during summer in the Fur countries it would have been sure to have been met with in the United States and even further south in America in winter.

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## AVOCET.

*Female.*

Leadenhall Market, April 5th, 1846.

The only recently-killed bird I have seen. It will be in summer plumage if the species has any periodical change of plumage, of which I am not aware. It was sent to me by a man named Green, who used to haunt Leadenhall Market, and who at first did not like my getting recently-killed birds but who wished to sell me the skins. He however soon ascertained I would have no skins at any price and we soon fraternized, and after I left London I feel pretty sure I got the first recently-killed Avocet he met with.

I am sorry I am unacquainted with the habits of this remarkable bird, which I have been unable to obtain in a recent state. During my residence in London I tried by sending into Norfolk, but was informed that it was some years since they had been there. I should think its habits will in some respects resemble those of the Oyster Catcher, as the bird seems to me to be allied to it. Its eggs are as like those of the Oyster Catcher as possible, and I should think from its general appearance at first sight that they will be very like each other when flying except in the proportion of white on the birds.

These remarks were written previous to my getting my bird.

Near the Avocet should come the Long-legged Plover. I have little more to say about it than I have already said, which is that I believe it to have been much less frequently obtained or even

seen in England than has been recorded. It is quite evident if here at all it would be at wide, open, and extensive marshes ; its being supposed to have been seen on mountains we may take for granted was only in the imagination of the recorder of the event. The eggs seem to point out its affinity to the Pewit, and from their shape it would appear to lay four eggs like that bird, and not two or three like the Oyster Catcher and Avocet. The probability of such a bird happening to alight in England, if it did, is that it would depart again so soon as ever it was able. That it would remain longer than to recruit its strength after alighting here, driven out of its line of migration, or that it would make such a mistake twice if it could possibly avoid doing so, would be a very remote possibility.

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### OYSTER CATCHER.

#### WINTER PLUMAGE.

Fenham, November 6th, 1844.

#### SUMMER PLUMAGE.

Shot at Walney Island, when there with Mr. Hancock. It weighed 1½ lbs.—July 27th, 1840.

The Oyster Catcher in some respects resembles the Pewit as well as the Avocet, but is nevertheless unlike any other British bird in many points. In the autumn I have occasionally seen flocks of Oyster Catchers and Pewits mixed while sitting on the sands, but when put up they formed separate flocks. How much the eggs of this species and those of the Avocet resemble each other, except in size, and the number also corresponds, being two or three, being different from the Pewit, which always lays four. Again how the young Oyster Catcher resembles the Pewit in having the pale brown edging to the upper plumage generally, but in the young Pewit the edging of the feathers resembles the winter plumage of the mature bird, and the young bird of the

year getting its new back feathers in autumn they also come edged with brown, which is not the case in the Oyster Catcher, which on its moulting to its winter plumage casts the edged feathers which are always afterwards replaced by black feathers. The Oyster Catcher varies much in size, the old bird when killed during summer being much larger than those you generally meet with during the winter, the reason of which is that in winter you rarely meet with any but young of the preceding year. I am unable to say at what time the Oyster Catcher gets its bright red eye, the young in September certainly had not but some I had in November had red eyes, probably mature birds.

This handsome bird is very common on the Cumberland coast during August and September. When the tide is high they congregate in flocks of hundreds and hundreds, waiting for the going back of the tide to enable them to feed again. We have no bird which looks better on the wing than this, his colours are so decided. Although generally a very wary bird I have walked quite up to a flock sometimes when sitting on the sands, more particularly so if you can by creeping come within about fifty yards without their seeing you, you may then by going straight on get very much nearer before they will fly. I do not by any means intend to say that this is always the case, but it has happened to me several times. I have also got them when they have been coming to feed on the scars at low water by hiding myself, and when I saw them coming imitating their fine wild cry of *Quee*, which is pretty sure to make them fly over you; but unless they do come very near it is little use firing, for they are extremely difficult to bring down. They always fly till they absolutely die unless you break a wing. The man at the lighthouse near Skinburness informed me that in very dark weather they always fly to his light, and that he can catch them very easily as they just sit pecking at the glass, when he takes hold of their legs. This he informs me he can do at any time in dark weather. I have been much amused sometimes in following a flock trying to get a shot at them. When I have been walking carelessly round and round they would be all sitting on one leg, and when they thought

I was getting nearer than they liked, instead of being at the trouble to run the whole flock would hop for several paces, which they do with great ease. I have seen them do this while I have been on some favourite scar where they wished to come and feed, but upon which they dare not come in consequence of my being there. When a flock alight they frequently almost all put their beaks towards the ground and commence quite a chorus with the cry of *pe pe pe pe* very quickly repeated, and when sitting on the sands two will often have a battle, whether in play or not I cannot tell, running at each other, and one jumping in the air to avoid the other. They sometimes fly in immense flocks in regular order, not commonly one after another, but in a sort of breastwork, reaching a great distance across. In the gizzard of one I killed in Lancashire during the breeding season was nothing but the operculums of *Buccinum lapillis*. How it had got at the animal is curious enough. When they feed on the younger limpets (*Patella vulgaris*), as I have often found in their gizzards, they swallow the shells as well as the animals, which seem to help in their digestion, but when on the periwinkles, silver shells, and chucks no part of the shell is swallowed. Being a very tough and hardy bird it is never driven away from the sea-side by rough weather, and as it generally breeds near the sea it seldom leaves the shore; it however in some places returns annually in spring up some gravelly-banked rivulet, where it will rear its young, but it goes to the seaside again when the young are able to fly, and excepting in those instances, which are few, seldom leaves the sea shore.

Sometimes when flying a flock of Oyster Catchers resembles a flock of Teal, from a peculiar manner they have of getting over a considerable distance keeping their wings drooping.

In the gizzard of one I examined in November, 1844, were quantities of the operculums of the common silver shell (*Trochus*) and the common periwinkle (*Turbo*), and a small portion of the animals only remained, but from the quantity of operculums it was evident that they were the remains of far more than one meal; their thin and horny substance prevents them being

digested, and that will account for their being there in a quantity. In this bird there was no gravel or small stones in the gizzard. Now I wish to know how the bird gets rid of the hard shells to get at the animals. It must place each one separately in a crack in some rock, and apply its powerful beak like a chisel, and by repeated hammering break the shell in pieces; but in one I found operculums of the chuck (*Buccinum lapillis*) of large size, which I would have supposed it impossible for the bird to have broken.

The Oyster Catcher varies the situation of its nest or perhaps rather the place for depositing its eggs, which is hardly worthy the name of a nest, according as circumstances render it necessary. It generally lays its eggs beyond tide mark by the seaside on gravel, where there are tufts of bent grass or bare and scanty herbage, but I have also seen them laid in a hole scratched for their reception by the parent bird on short grass at a very considerable distance from any water, and I once saw them in a meadow field also at some distance from the sea. In this instance I was with a man (James Cooper, who got so many rare birds for Mr. Heysham of Carlisle) when we observed an old bird flying round us and making a great noise, although we were then at a distance from where the eggs were, but from the bird's manner of flying he said he knew whereabouts the nest would be, and directed me to walk one way while he went the other in search for it, and in a very short time he called me where were the two eggs, which were sitting. It also on a rocky coast lays its eggs on the bare rocks. In foggy weather in autumn when flying in flocks, as they often do close together, although generally so shy a bird they come right forward, as if to defy you, at which times you may often get one, but immediately on your firing at them they all as it were dive and do not give you much chance for another shot, as they do not again get in a body till they get quite past you.

In May, 1847, I found a nest on Brough Marsh containing two eggs. It was placed amongst some broken ground, which had been disturbed by high water tides, and was about a foot higher

than the ordinary high tide water mark, each tide coming quite up to the nest but not on a level with it. I once found the eggs laid on old dry cow dung, which really apparently would make a most comfortable place for the young. At Rockcliff I found the eggs sat on when only two in the nest. They generally make their nests on the shingle a little higher up than the high tide mark, but they also occasionally make them on the grass. In the year 1845 I saw several nests on Fouley Island in Lancashire, one was on the middle of the island which is pasture land, it was merely a hole scratched in the turf and the lining was composed of old sheep dung. Three others were placed upon the shingle, each in a hole scratched to receive them. One was thickly lined with small flat stones, which were also strewn about near the nest; another was similarly made with small pieces of oyster shells. Three nests contained three eggs each, and all had been sat on; the other contained one only, which was fresh laid. One of the nests was placed on the top of a high bank of shingle, upon looking over which I saw the old bird run off. When they have eggs sat on they fly round and round you and do not utter any cry, but when they have young they cry out. If the eggs are fresh laid the old bird leaves them on seeing you, and will not return until you have left the place.

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#### GREY PHALAROPE. .

##### YOUNG OF THE YEAR, BUT ACQUIRING WINTER PLUMAGE.

- 1.—Male. Coast, Nov. 16th, 1848.
- 2.—Caught on rigging of a whale ship off the Orkney Islands in early autumn.
- 3.—Female. Shot at the King's Meadows, autumn, 1842.
- 4.—Coast, Dec. 1st, 1848.

All these are birds of the preceding summer, the tertials and wing coverts show this. The one caught in the whale ship is evidently the youngest, being least changed to its winter dress.



## WINTER PLUMAGE.

*Mature.*

Caught at Capheaton Lake, October, 1886. It was miserably set up by a joiner named Watson from whom I got it.

## SUMMER PLUMAGE.

*Male and Female.*

Brought from Greenland and given to me by Mr. Hancock.

From the lateness of the Grey Phalarope's arrival on this coast one would at first call it a winter visitant, but on consideration we can only claim it as an occasional autumnal visitant, though few years pass without one casting up. Those which do, are almost always young hatched that year, more or less changed to their grey state according to the early or late time at which they are met with; the later killed the greyer they are on the back. All I have seen have been killed between October and early in December. I have the only old bird taken near here I know of killed in October having so early completed its winter dress, the tertials and all being grey except very few small red feathers of summer remaining on its true back.

Where are the winter resorts of this bird and also the red-necked? One which I had was very fat, it and another killed by the seaside had their gizzards full of small univalve shells (*Lacuna*, *Fusus*, and *Littorina*), but as they are sometimes met with inland at fresh water ponds they must also feed on insects. It strikes one as strange what becomes of these birds between the time when they pass us till the following June when they arrive in red plumage in the arctic regions. The seamen employed in the whale fishery used to call them June birds, as they arrived at that time, and they used to bring them home. Where is the line of migration in Europe at which they appear regularly either in spring or autumn?

From Audubon's account this species seems to be met with very rarely in America in autumn as with us, simply passing. I have never seen one killed here in spring.

From a translation by the late Dr. Charlton of Faber's work, which he lent me many years ago, I see Faber was two years in Iceland before he met with this as he calls it very scarce bird. He however found it breeding on the south-west side of the island in only one locality, and by no means plentiful. It was at a series of fresh water ponds lying near the sea shore. He first met with the bird on June 21st, 1821, on the coast near Keblevik. A male and female were swimming amongst a flock of Red-necked Phalaropes, both of which he killed at the same shot; and he remarks the female was the finer in colour. He afterwards found their breeding places and newly-hatched young. He adds their habits are very like the other species.

Probably the two species are equally common, but the red-necked breeds as a rule further south than the other kind, and the further north you go the commoner the one species will be found breeding, and the rarer the other will be; the belt of breeding ground of the one kind, comparatively speaking, leaving off where that of the other begins.

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### RED-NECKED PHALAROPE.

#### SUMMER PLUMAGE.

Brought from Iceland by the late Mr. G. C. Atkinson in 1888, and by him given to me.

#### YOUNG OF THE YEAR.

Killed at Prestwick Car in autumn many years ago. It had been shot by a pitman there. I got it from Mr. Hancock, who had re-stuffed it. It has acquired so little of its winter plumage it must have been obtained very early, as they begin to moult on the back to winter (grey) plumage by the middle of September.

Although this bird breeds on some of the northern Scottish islands not very uncommonly, and in Iceland commonly, it is nevertheless much rarer in England during its autumnal migration than the Grey Phalarope, the more arctic bird; but in this

country during the spring migration both are unknown. The few of the present species met with are invariably young of the year, very little changed to their winter plumage, and they are, as a rule, met with earlier than the Grey Phalarope is.

I have never seen this species in its winter plumage, either young or old, that is plain grey. Where does it winter?

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### PIGMY CURLEW.

#### YOUNG OF THE YEAR.

Male and female, Brough Marsh, Sept. 18th, 1839, and one Prestwick Car, Aug. 80th, 1840.

The winter plumage entirely unknown in this district.

#### SUMMER PLUMAGE.

1.—Male, June 2nd, 1845, Yaxley Fen. Sent to Mr. Hancock, who was on the point of starting for the Continent, and let me have it. The weather being warm it required considerable care to set it up.

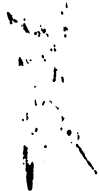
2.—Female, Leadenhall Market, 29th May, 1841. Not much changed from winter plumage. The only bird of this kind I met with there.

1 and 2 shot when migrating north to breed.

3.—Shot by Major Russell, on the Essex coast, 8rd Aug., 1880, when with a flock of Dunlins, who most kindly gave it to me; an interesting bird, just returned from breeding. No instance is known to me of the old birds having occurred on the Northumberland coast at the same season.

No. 4 I got from Leadbeater of London, 1841, a skin (he said it was from Gottenburg) evidently of a bird killed in the autumn (probably August) when migrating from its breeding grounds.

The others from skins. One sent me by Mr. Bartlett about





1848, and the rest (Indian skins) I got from Mr. Hancock. All these last evidently killed on migration in spring to the north to breed.

Major Russell's bird is I think a female (it differs much from No. 4, which I have little doubt is a male, and which would be procured at the same time of year). It has apparently not commenced its autumnal moult, no imperfect feathers being in it that I can find. It has several winter feathers on the back and some white feathers on the breast. These feathers I think have remained as they are since they were acquired, and not changed colour. It is possible the bird is a little more than one year old, all the wing feathers (except two or three tertials on each side and one or two wing coverts near the tertials, which are summer feathers) being I think the first feathers the bird ever had. All the body feathers being required to be renewed late in winter and in spring came I think more or less as summer feathers, the bird commencing to be in its summer condition when they came. The bird being as I suggest a last year's bird acquired the winter feathers on the back and breast now remaining as such on losing its young feathers as usual, and early in autumn and too early to change their colour to summer plumage, in consequence of the time the bird had them and their vitality being lost. The summer plumage feathers on the back are much faded and worn. A corresponding tertial on each side would appear to have been cast late in summer, as the renewed feathers are edged with bright rust colour, but no other feathers are bright-coloured, and consequently it does not appear the bird had any of its back feathers renewed to summer plumage during the time it nested or afterwards. I must confess the winter feathers on the back look fresher than the summer feathers, but I still think had the bird moulted these during summer they would have shown some trace of summer markings, which they do not. I merely throw out suggestions. My theories may be something near the mark or they may be wide of it.

It is quite possible this bird may have bred early and lost entirely its summer condition, and that it may have been requisite

for it to have some of its back feathers renewed, which came plain grey as winter feathers. I should expect, however, if it had commenced its regular autumnal moult it would have continued it till completed, and not have ceased moulting, as in this bird, when the regular autumnal moult was so near, and which must have commenced so shortly after it was killed.

This species is subject to considerable variety of plumage in summer. I think those strongly marked transversely with black and white on their breasts are females. I have also seen one killed at Yaxley Fen, May, 1848, which had completed its change on the back, which greatly resembled that of a female Sanderling at the same season, but so much white remained on each feather on the under parts, at a distance the red is hardly distinguishable, although each feather has its proportion of red in it, and has also a black bar. Another female I got in the spring of 1842 (No. 2) has the back changed, but is very different to the last, it shows very little red on the breast feathers, but each one has a black bar. The female seems to exceed the male in size, length of leg and beak.

In the bird before mentioned as procured from Leadbeater, and which I think is a male just before going into its autumnal moult, the under parts are nearly all dark red but faded. No black bars are to be seen. The back is not edged with grey, each feather being dark brown and indented with red; the grey edges of the feathers evidently having been worn off. This bird has one feather on its back which seems the commencement of its winter moult, but it has grown previous to the bird losing its summer condition, it appears to have commenced to grow with a red edge, the rest of the feather is greyish, which seems to show the bird's condition had been changing as the feather grew. I have little doubt but that by the time the bird had completed its moult this feather would have become grey, and harmonized with the rest of the winter plumage.

There can be no doubt but that this species, as well as many others of the tribe to which it belongs, get tertials and wing coverts in autumn which certainly do not, and we must suppose

cannot change colour to the bird's summer plumage. At the same time should the bird require these feathers renewed in spring they come as the bird's summer plumage, and generally in some species this change does partly take place, but you also meet with quantities of old Dunlins in August still retaining all the tertials and wing coverts got the autumn before, all much worn and without a single feather cast or coloured amongst them. The several kinds of waders vary much in this particular respect. For instance the Little Stint, Sanderling, and Knot generally show a few changed wing coverts and tertials which are coloured, either acquired in spring or during breeding time.

In all its states of plumage the Pigmy Curlew much resembles the Knot, but it does not in shape. The young of both species arrive with us about the same time, the Knot generally the earlier of the two by a few days, but they differ in this respect, the Knot being a hardy bird remains over winter, which this bird never does, and besides this the Knot is much more common, probably its breeding grounds being in a more direct line of migration, the Pigmy Curlew being the commoner bird far eastward; the Knot certainly being a common American bird which this is certainly not.

This bird's appearance both in going north to breed and journeying south points out the regularity of its migration, the old birds going north in the end of May and the young birds coming south in the end of August; the old birds apparently only being here for you may say the day, or less time even, hurrying to their breeding places, and the old birds probably remaining no longer time on their return, the young resting on migration for a week or two, if so long, those met with later may be different birds merely passing.

The belt of breeding ground probably is of great extent laterally, as it seems to be much more common far to the east of England, when regularly passing in spring to its northern breeding grounds.

This bird seems to have a wonderfully wide geographical distribution. I saw when in London in 1841 a skin of one in winter



plumage brought by Mr. Cumming from the Philippine Islands. Audubon says he met with two in summer plumage in North America. Most likely its breeding ground will extend in a belt from North Eastern Europe to Northern Asia, and it *may* be in America also; but has it been met with in Arctic America by any naturalist there, which if there it ought to have been before this time.

There appears to be a nearly allied species (*Tringa Douglassii*) figured in the Fauna Boreali Americana. Is it possible this is American representative of this species? and that there may have been confusion as to the two birds.

From the Pigmy Curlew having been occasionally found in its summer plumage on some of the south-eastern coasts in the end of May some ornithologists suggested it might be found breeding there. Time has not carried out their anticipations, and why should this bird do so unless the Knot did? One species was quite as likely to breed here as the other. Probably some error has also occurred as to the young having been procured so early as July on our coast.

It would appear the Pigmy Curlew in spring sometimes visits the Solway shores in its summer dress, as Jas. Cooper shot two as mentioned by Yarrell and which Mr. Heysham of Carlisle got from him, but these are the only authentic instances of its having been procured at that season I ever heard of in the north of England. One of these was killed on the 24th May, and the other on the 27th of the same month, 1888; the latter Cooper told me was a single bird amongst other small birds but he shot at it particularly from its red colour, the former he shot from a small flock. He told me had seen some in May, 1888, but could not get near them. He told me he was surprised at only getting one from the flock, as all seemed close together when he fired at them.

In September the young appear annually on the Solway shores, as I have often had them from Cooper, but he never got them later than the first week in October. I have letters from him to this effect.

On the 6th Sept. 1886, a very foggy rainy morning, I shot a young bird from a small flock on the Town Moor, which I gave to Mr. Hancock.

In 1876, in September, young Pigmy Curlews were far from uncommon at one spot at Holy Island, where I could constantly find them if wanted during the month. I shot several very rich-coloured birds, which I afterwards regretted not having preserved. The following year I saw none, neither did I see one in 1878, though I looked for them many times. Some of those we got were so richly-coloured they surprised me; one in particular, a large bird, probably a female, was quite deep-coloured on the neck and sides, and some of the larger back feathers had dark marks on them in the centre of the feathers, as well as being edged as usual; the small wing coverts were deeply edged with rich buff. They seemed to feed further from the sea than Dunlins and Sanderlings, and were frequently high up on the sands, where the sand reeds grew. All appeared to leave by the 20th September, as we met with none after that date. Why do not any old birds accompany these young birds? It may be they are able to take longer flights, and fly direct to their winter quarters wherever they may be without stopping to recruit on their journey, or they may be unable to fly long distances till their autumn moult is completed, but where are they at this time?

On the 6th Sept., 1879, a flock of about a dozen flew past me on Fenham Slake, keeping up what appeared almost like one continuous cry, out of which I shot four, the rest passing on, apparently continuing their migratory flight. They were the only birds I saw that year, excepting one shot by a friend who was with me on the 28th August, which was with a young Dunlin.

During the short periodical visits of this bird (which in this district appear to be composed entirely of young birds in autumn) it is sometimes met on the sea shores, and sometimes inland at marshy places where any such are now to be found hereabouts; but its stay is so short it hardly enables one to

observe much of its habits. I have however remarked that while at the marshes feeding they suffered one to get near without much difficulty, and at that time the gizzard was full of a sort of soft black substance, and that they were extremely fat, while those on the coast are apparently moving their quarters, being often killed out of a flock flying past, and they are then lean; the gizzards of those I have examined contained small stones. It is just possible that the food which they get on marshes, being the very delicate small fresh water shells and very small worms or roots (as they sometimes appear to be), will require no more force than the action of the gizzard to promote digestion, while such food as the seaside produces for them may require the action of the small stones, it being the smaller sea shells and crustacea which are as a rule coarser than those of fresh water marshes. It appears also that in those from the marshes the fat is of a much more oily description than that of those killed by the sea. This species, like so many others of the tribe to which it belongs, shows how beautifully Nature has provided for its protection in the colouring of its plumage, which during winter is plain ash colour above and white beneath. Now at this season it passes great part of its time on the wet muddy places left by the receded tide, and who is there who has been in the habit of seeing, I was going to say it (but as it does not remain with us at the season, but birds of the same colour, such as the Dunlin), on such places who has not been surprised at the difficulty in perceiving them, even when sometimes near (except when they move or their shadow is observed), so well does their colour match that of the ground on which they are standing. In early morning or evening they are very difficult to see, and even in broad daylight you may often pass them unless they move. The grey plumage of winter may be called their proper plumage, as when they cast their feathers in September, which all the old birds do, they get this plumage, and it remains the same from that time till May, when as the breeding season advances, and then you see the change which takes place, and observe the reason. At this time the back becomes spotted with black, grey, and red, and the whole

under parts become darker, varying in different individuals, some getting to an almost uniform dark chestnut, while others get only sparingly spotted with red and barred with black. Now at this season they have to sit on their eggs and skulk about with their young when hatched, to keep them from numerous enemies, and how admirably the mixed colours of their plumage enables them to be unobserved among the half-dried grasses and different tints of the herbs among which they live at this season. If they still retained their white plumage they would easily be discovered; and mark the young bird, its plumage is neither of the grey colour of winter nor the red of summer, but it is between the two, and see the utility of its being so. It is at first more nearly like the mottled plumage of the parent on the back, and the under parts are also a rich buff, but for it to be dark like the parent would not answer, as it would then have to change entirely again, before it left its nursery, for its protection on the marshes where when fully fledged it had to seek its food. For this reason it is no doubt that it is paler, and by the time it has left its birthplace it has considerably faded, and by October it will have nearly faded into or moulted to the plumage almost similar to that of the old bird in winter.

It seems strange why the Pigmy Curlew and Little Stint leave us as they do about the end of September. One would think that there was a never-failing supply of food for them, even during the severest weather when the tide recedes. Both of those species are inland marsh as well as seaside birds. Now it occurs to me that as they are as often seen while with us at inland marshes as by the seaside, both situations may be necessary for their economy, and that they leave us previously to any frosts, because of the possibility of their being deprived of such food as the inland places produce, by their being frozen over, but still they could get to river mouths. What has led me to this supposition is that the Common Godwit, Knot, Sanderling, and Purple Sandpiper (which all arrive about the same time with them), which are birds which very seldom leave the shores of the sea, remain with us during the whole winter. The

Dunlin, however, which is found both on the seashore and occasionally during open weather in winter at inland marshes, remains the whole winter. With land birds, which feed exclusively on insects, one sees at once the necessity of their migrating to a warmer climate during winter, where only they can possibly find food, but there always appears to be as many small shells and such food as these small waders live upon at low water during winter as at other seasons. The Ruff is much more a marsh bird, and his food being often caterpillars and such like, compels him to move as frost sets in, or he would be starved when the marshes were frozen over, but I once had two in January. Those killed at that time had in their gizzards broken beetles, principally *Carabi*.

No one has informed us why the Spotted Redshank gets black or the Dunlin a black patch, the Golden Plover a black front, and the Godwits, Knots, and this bird red; but there will be good reasons if we could find them out. It would be impossible to say why one species gets black, and another red, and another spotted. Each species will have some natural enemy, and most likely every variation in the colour of the plumages of the several species will be of some use in protecting it from its enemy in some way or other.

I observe in the account of Phipps's expedition to Spitzbergen a hundred years ago, in which my grandfather was lieutenant, a list is given of the birds met with, but such a bird as the Pigmy Curlew would hardly be recognised. However some of the party landed on a low flat island in Waygat's Straits on the 29th July, and in the description of it it is mentioned "the island abounds with Snipes similar to the Jack Snipe in England, the Ducks were now hatching their eggs, and many Wild Geese feeding by the water side." Were some of these so-called Snipes Pigmy Curlews?

On the 25th July they landed on Mossen Island, where they saw three Bears and a number of Wild Ducks, Geese, and other sea fowls, with birds' nests all over the island.

In the appendix is also a list of birds seen during the expedition,

the only land bird mentioned being the Snow Bunting, and no other sea birds but Ducks, Gulls, and Divers, no birds of smaller size being noticed, probably the various species would be quite unknown to the parties on shore.

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### KNOT.

#### YOUNG OF THE YEAR.

- 1.—Hartley, Sept. 2nd, 1840.
- 2.—Skinburness, Sept. 10th, 1844.
- 3.—Holy Island, Aug. 26th, 1878.

#### WINTER PLUMAGE.

4 and 5.—One mature female, the other a bird of the preceding summer, having wing coverts and wing feathers of young bird. Shot with several others at Fenham Flats, Jan. 8rd, 1849.

6.—With the wings up, killed same place, Feby., 1878, also young bird of preceding summer, but this bird had a buff breast. It seems to have moulted to buff on the breast, assimilating in this respect the young bird's first plumage, as the Common God-wit appears to do.

#### SUMMER PLUMAGE.

7 and 8.—Males. Blyth Sands, Aug. 16th, 1844.

9.—Female. Hartley Bates, July 19th, 1854.

7, 8, and 9.—These birds killed on their return from their breeding grounds. No. 9 was a single bird, and is the earliest I have known killed. I well remember picking it up. I thought at the time it was a lovely bird. It was beautifully marked, with much of the rich pink colour still left on the back, and it had such a glossy appearance, mixed with purple reflections. It was flying along the coast, coming over my head when I was sitting amongst rocks on a reach of land running out into the sea.

The beak of the Knot when alive is quite soft.

7 and 8.—One of these has apparently had a patch of summer feathers on one side of its scapulars knocked out, and they have been replaced by grey winter feathers, there being no corresponding patch on the other side.

10 and 11.—Two females. Leadenhall Market, May 17th, 1841, and May, 1842.

12 and 13.—Two females. Sent to Mr. Hancock from Yaxley Fen, June 2nd, 1845, from whom I got them, he being on the point of starting for the Continent.

Nos. 10, 11, 12, and 13 obtained on their way to breed.

Nos. 11 and 12, killed 2nd June, 1845, are I think birds of preceding years, the wing coverts being so much worn.

No. 6 was a bird which puts out one's calculations, and shows how indefinite are any rules one may try to lay down. I always thought young Knots on moulting got white breasts in autumn, assimilating them to the winter plumage of the old birds. This bird shot in February, has got the plain back of the old bird's winter plumage, but the moulted breast feathers were more buff than many young birds in August. Now was this buff colour in consequence of the adolescent state of the bird, or was it in anticipation of the bird's summer plumage, which might be acquired by the bird in May? A friend with whom I was in his punt looking on, shot a young Knot in August, about the 20th, this year, without a trace of buff, two were sitting down on the sand with two Turnstones, and the former never even were at the trouble to get up although we were close to them.

When a large flock of Knots flies or rushes past you the noise of their wings is singular, even when they are at a considerable distance.

Some Knots commence to get the summer plumage earlier than others. I find I have met with one with the back feathers beginning to turn dark-coloured and having a few red feathers in the end of January, whilst on the 12th March, 1840, I examined about a dozen, only one or two of which had commenced

any change, and even so late as the 29th May, 1889, I had two sent me from Brough Marsh from a flock of about half a dozen, and which were all apparently alike, one of which had not a single feather changed, and the other merely had the fore part of the neck tinged with buff; the tertials of these were worn to threads. I have seen an old Knot shot in February still having a few very much worn feathers of the preceding summer.

In summer plumage there does not appear to be any difference in the colour of the sexes, but those that I possess differ considerably from each other. One is much more intense in the colouring on the under parts, being of a uniform colour below. On the back each feather is broadly edged with grey, and with dark brown spots on the feathers. In the other three the under parts are mixed with white, and they have not so much grey on the edges of the back feathers, and they have pink spots, which are more often seen than brown spots as in the other bird.

The food of the Knot consists of small shells, such as *Littorina*, and those which I received from the fens in their summer plumage had been feeding on maggots.

I am nearly sure that age is not discernible in the plumage of birds of this tribe after they have once perfected the complete winter plumage the year after they were hatched, and that some birds getting darker in colour in their summer plumage than others is accidental, as I have seen Knots and Common Godwits entirely changed but light in colour, while others have only half their feathers changed they are dark and yet not apparently moulting.

It is most difficult to account for birds wintering on our shores leaving us early in spring before acquiring their summer plumage, and the same species afterwards appearing in May and June further south, and apparently only then going to their breeding grounds, and which only then are apparently coming from the South of Europe or Africa, where they may have wintered.

I have already printed much about these birds. They seem to have a wide latitudinal range of breeding ground, perhaps extending within a limited circle in Northern Europe and America,



but perhaps in Eastern Asia they may be less common. As they often winter commonly on our shores, braving the most severe weather, it seems likely they will not migrate so far southwards as many other species do. I think I have observed birds like this, whose dependence rests entirely on what they procure on the sea coast, seldom go so far south as those birds which partly depend on fresh water productions for their sustenance do.

With the description in the "*Fauna Boreali Americana*" of a Knot in summer plumage, killed in Arctic America, in July, 1842, is a note as follows:—"One or two of the intermediate coverts in this specimen are coloured with reddish-orange blotches like the scapulars, showing that the bird was moulting when killed." I may add that this is not necessarily so. These feathers were more probably acquired when the bird was assuming its summer plumage, and it being necessary to have them renewed they came as summer feathers. We often see the old birds returned here with a few of such feathers amongst the old faded wing coverts, which are the feathers the bird acquired the previous year either as its first feathers if only one year old, or those acquired at the regular autumnal moult to winter plumage if more than one year old; the whole of the wing coverts as a rule being changed at the autumnal moult only, and remaining in the plumage of winter; a chance one or two if requisite for the bird to have them renewed in spring being renewed and coming as summer plumage, in consequence of the bird's condition at the time, as in this case.

I have an egg said to be of this bird which was given to me by the late Lady Ridley nearly forty years ago, who at the same time gave me an egg of the Dotterel, which at that time was a great rarity, none having then been sent from Northern Europe, and very few found on the Cumberland hills.

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## DUNLIN.

## YOUNG OF THE YEAR.

Holy Island, September, 1886; and same month, 1877, assuming their winter plumage but retaining the edged tertials.

## WINTER PLUMAGE.

*Males and Females.*

Killed from a large flock at Holy Island, Dec. 31st, 1844. All old birds, with plain tertials acquired at the regular autumnal moult from the summer plumage.

## SUMMER PLUMAGE.

Female, Brough Marsh, May 28th, 1839. Had eggs when procured.

Another, Aug. 8, 1846, was killed just before autumnal moult.

Two Brough Marsh, May 31st, 1859, from a large flock flying with Sanderlings; these are a paler variety not like those having nests within a very short distance. I have noticed that the local breeding birds that I have met with are much darker-coloured than those in flocks at the same season. This species appears to be our most common Sandpiper, being to be found during the greater portion of the year in some parts of England. Notwithstanding this it is perhaps as great a wanderer as any of the allied species. It probably has a wider belt of breeding ground than any of them, some extending their summer migrations into Siberia, others breeding with us and probably much further to the south under favourable circumstances. We perhaps know less of the migrations of the Dunlin than of some other kinds whose visits are periodical only. There is no doubt but that whilst some are breeding here, others in flocks are only migrating past us on their way northward.

The season of the year when most Dunlins seem to be absent from our coasts is similar to that of some other migrating waders. They winter with us in abundance, but they appear to be absent when acquiring their summer plumage. Where do they go to

acquire this? They seem to leave us in their winter plumage early in spring and return in April, those intending to breed with us and also those migrating northwards, then in their summer plumage. Can this singular migration be accounted for?

I find I went to Brough Marsh on the 20th June, 1845, to see Dunlins and other birds which breed there. The Solway a day or two before had flooded by a very high tide a large tract of flat land on which they breed, and consequently all the eggs and young on the flooded part had been destroyed. We met with a pair which appeared to have a nest, and in consequence we watched them, and after remaining a short time the old birds sat down on the grass very near to us, and upon going to them we found the four young all huddled together. They were rich reddish-brown colour, and had left the nest though very young. It was a wretchedly cold dull day with a north-east wind, and the poor little birds looked more dead than alive. A herd we saw said the weather had been so cold and wet it had killed many young birds on the marsh previous to the flood, as he had found many dead. We saw many pairs of Dunlins very tame.

Brough Marsh is a peninsula in Cumberland, formed by the rivers Eden and Esk meeting when running into the Solway, and is composed of dry sandy soil covered thinly over with grass, and it is occasionally flooded over by very high tides. On this place Dunlins breed, and on account of the nature of the ground the nests are not so difficult to find as when on rougher ground as they often are. The nest in this situation somewhat resembles that of a Skylark, but it is hardly so well finished. It is principally made of small fibrous roots and pieces of grass.

Dunlins have eggs early in May, I have found them on the 16th at Prestwick Car. On the 1st of May I see I found some still flying in pairs uttering their breeding note. I see also I have found two nests on June 4th at Brough Marsh, where in May I have also found many of their nests with eggs, and at the same time within a mile I have seen large flocks flying with Sanderlings and Ring Dotterels, which flocks by the beginning of the next month disappear.

I have seen the nests formerly at Prestwick Car built amongst short heather, which with the moss hid them from view, and then unless you put the bird from the nest you had little chance to find it. I have seen flocks of young birds there in August and September. It also breeds on some of the heathery mosses and moorlands in other parts of Northumberland, but generally sparingly, and on account of the difficulty of finding the nest in such situations it often is not observed. You very often however find the young on the sides of small pools which have muddy shores on the moors in August. So soon however as the young can fly well they come to the coast, and about the muddy and slakey sides of rivers they are then common.

I find I have noted their leaving their breeding grounds as early as the 19th July. The ordinary note of this bird during autumn and winter is a very plain soft scream, but during the spring and summer it becomes varied, particularly when they have eggs and young, at which time the most common note resembles the word *Dwee* held on for some time. They also use that note when flying in flocks in spring as well as when breeding. The extensive sandy shore of the Solway used to be a great place for birds congregating just before their departure, and during the month of May, particularly towards the latter end, flocks of hundreds together resorted there, which by the first week in June disappear, having most probably migrated northward. It is singular how the nature of birds changes, you will see flocks of these birds flying and wheeling about which will not allow you to get near them, unless they chance to fly round within range of a gun, which they seldom do, but if you go to their place of breeding only a short way off you may nearly catch them. Those birds which you shoot from a flock are always very fat and much less worn in feather than those which have already begun to breed, although shot on the same day. During autumn the flocks that you meet with, being almost entirely composed of young birds, are often very tame. as they also often are during severe wintry weather. Some which I have examined which were shot from flocks in May were decidedly moulting to

their summer plumage on the back; the new feathers were much brighter-coloured than in the other birds, although shot at the same time, and which were not moulting, but had the appearance of the feathers having changed their colour. The back feathers were also a different shape, those which had been renewed being round at the ends, those not apparently renewed being worn to a point. The back feathers are indented with rusty colour as well as edged at this season.

Holy Island, Sept., 1876.—Young Dunlins numerous; no old birds. Some extremely fat. Flocks very uncertain as to shyness, sometimes shifting ground without apparent reason, at other times allowing very near approach, especially if walked up to very quietly. The quantity seen in different years at this season varies very much, in some years scarcely any are to be found, this is probably caused by their either not having arrived on this part of the coast or by their having passed on migration. It would appear that the old birds remain here only a short time, as they seem to be met with further south in large flocks earlier than this. When old birds are met with here at this season on the coast they are more commonly either single birds or only a few together, and not mixed with the flocks of young birds. This might be accounted for by the young birds wings being perfect, and in consequence they are able to fly well, the old birds then casting their quills might be unable to keep up with them.

The state of plumage of the most of the young of the year Dunlins at this season is curious. I consider there are three regular states of plumage in birds, the young, the winter, and the summer, each of which states would be retained for a limited time. To begin with the bird gets its first plumage. On changing from this to winter these birds as I have before observed begin to moult and one would expect that when they began to change they would continue moulting, however gradually it might be, till the moult of the young bird was completed so far as it went, but there seems to be a rather sudden acquisition of back and breast feathers, which come those of winter, and after this

the remainder of the moult of the young bird to winter plumage is so gradual as to be almost imperceptible, probably only a feather now and then being changed up to the end of the year, by which time the feathers showing the plumage (rusty-coloured) of the young bird on the back are all cast, and the edges of the wing coverts have become worn and appear grey, and the edges of the tertials wear off, leaving them plain-coloured, but from the wearing they have become both shorter and narrower than in the old birds, they being longer worn by them, that is from being first acquired, the old birds tertials having been renewed at the regular autumnal moult, besides the difference in size of the individual feathers of the young and the old birds to begin with. You occasionally, however, in September meet with a young Dunlin apparently early hatched as fully feathered as those which have been early hatched, but all the back feathers resemble the young bird's first feathers that is edged with rich brown. Whether these birds have acquired these apparently additional feathers by moulting (which come those of winter under ordinary circumstances) I cannot say, but it seems probable, as they appear equally well feathered; but it seems strange, if it is so, why the feathers have not come on them as in the greater number plain. One young bird not only has the back feathers edged but also indented with rust colour resembling the mature bird in spring.

The young Dunlin when in its first feathers is a very beautifully-marked bird, but by September you meet with most of them half-changed to winter plumage on the back, though they hardly appear moulting. This fact made me endeavour to find out how this is in this species and not so in the Ruff, Pigmy Curlew, Knot, Little Stint, Common Godwit, and others, the young of which in September are all still in their first feathers. On examining the inside of the skin of the very young Dunlin just able to fly these winter feathers may be seen in small blue lines, and they must grow very quickly, as after the bird has got them not much further change takes place till later in the year, and then apparently very gradually. I have occasionally seen a young

bird with its back nearly changed to winter plumage as early as this, but very rarely.

The plain renewed feathers on the back (the winter feathers) are broader at the points than the young bird's first feathers. By December these birds have all gradually acquired plain backs by moulting, but the birds having begun to change so early why do they stop half-way, probably the individuals have received such an acquisition as sufficed for its immediate requirements.

Some young birds even now (Sept. 16th) are still as like as can be to the young Little Stint, the back feathers being most elegantly edged on the outside with pale buff, which forms a V like mark, and which comes on to the scapulars, the centre back feathers being margined with rich reddish-brown, the scapulars being margined with the same rich colour, and the larger scapulars on the outside being margined with buff. I may add the V mark is only observable when the birds are recently killed. In setting them up the feathers always lose their natural arrangement. These young birds are probably later-bred birds from the north, or they may have been later bred in this county.

The young of the year seem to carry their tertials till the following late summer or autumnal moult. I may notice the difference in the time some kinds of birds moult in different countries.

On this coast we only sometimes find old Dunlins in September, some even then not commenced their moult and in very shabby feather, looking almost black, all the rich colour being nearly worn off the feathers and evidently just going into their regular autumnal moult to winter plumage. I think the most of the old birds migrate from hereabouts earlier than this, as not one in a hundred you shoot in September is an old bird.

Mr. Seebohm showed me amongst his Petchora birds three old Dunlins killed in July. These birds were then much in the moult and had cast their secondaries and several of the primary quills, the new primaries coming with great regularity in each bird of a blueish tinge, contrasting strongly with the faded old

quill feathers uncast. These birds were so short of quills they must have had difficulty in flying any distance. The tertials were coming highly-coloured, and the back feathers instead of coming plain were richer in colour than almost any summer plumage Dunlins I have seen. Now I begin to think perhaps these birds commenced to moult their back feathers in spring when they were in full breeding state, and that they had been moulting gradually all summer, and would continue to moult till all their feathers were renewed; but before this was accomplished the birds would have altered in condition, and in consequence the feathers growing and already grown of the entire bird, wing coverts and all, would gradually change colour to the plain feathers of winter, indeed it cannot be otherwise, as it is not in the least likely that these fresh feathers coming highly-coloured in July would be cast again for plain feathers, the bird's usual garb it gets in September. It struck me these northern birds may moult their quills so early to enable them to leave the country with the young birds before the nights get too cold for them to remain so far north. Certainly our native Dunlins do not moult their quills at that early season, and I may observe that I think it unlikely these Petchora birds come here, but they probably keep eastward, I never saw an old bird here that could have moulted in that manner in autumn, but they might be met with here during winter after the bird had altogether faded to its winter plumage.

I have met with Dunlins on our coast in September in precisely the same state in respect to the large wing feathers as Mr. Seeborn's skins, and which were also moulting on the back, but in these birds the renewed feathers are those of the winter plumage, probably the birds by that time having lost their summer condition. I sent Mr. Seeborn a wing and other feathers of an old bird killed in September for comparison with his skins.

I never saw a Dunlin with renewed bright rusty-coloured edged tertials or wing coverts in May, the old feathers remain without bright colour, but I have observed sometimes the autumnal moult has commenced early, and some old birds in August have new feathers, both wing coverts and tertials growing, edged with rusty



colour, like what should be the summer plumage, but which would probably gradually as they grew become plain, as the winter plumage, and I think this shows that the birds on beginning to moult had not lost the peculiar condition which causes the feathers to come dark (that is summer plumage) when they commenced their autumnal moult; but it is possible, if the tertials were cast very early, say in July, they would come as complete summer plumage, and if they got very much worn and would not assimilate with the winter plumage they might be cast again late in September in the bird's regular moult to winter plumage. I think the change in colour of the plumage of these birds is generally very rapid in spring, and depends entirely on the condition of the individual, but I could not suggest an opinion whether the brightest-coloured birds are older than the others, but I think they are not, as I have seen I think undoubted young birds of the preceding year highly-coloured, and when on their way to breed the following spring still retaining the first wing coverts and tertials the birds ever had.

The young Redshanks and Dunlins get a portion of their winter plumage much earlier than the Ruff, Pigmy Curlew, and Little Stint. The two former remain with us during our winter, and probably require warmer clothing than the latter-named species, which all retire before the cold weather comes, or it may be that the former have been bred earlier than the others, whose breeding grounds are generally so much farther north; but whatever the reason is, it is patent that we never see the young Pigmy Curlew or Little Stint on our coast having commenced to moult to their winter plumage.

As my object is and has been to endeavour to trace the migrations of these kind of birds I am induced to add some remarks not from my own observation. Faber seems to say this bird arrives in Iceland about April 18th in summer plumage in company with other kinds of Waders, particularly Ring Dotterels, and that at the end of May a single Dunlin associates itself with a Golden Plover, and becomes in a manner the conductor of the latter, giving to it the signal for alighting and for flight. The

Plover is thus completely under the guidance of the Dunlin, and that union continues till the Plover has met with a mate of its own kind, and from this circumstance the Dunlin has derived its Icelandic name of *Loupraell*, viz., *servus charadrii pluvialis*. He adds both sexes sit, and that at the end of June the young are hatched. In early August they come to the coast, a few remaining till October, when they leave.

Now these later bred birds in northern countries will in all probability be later in acquiring their winter plumage than those bred here earlier in the year.

I have been surprised at the noise caused by the wings of a very large flock of these birds when wheeling past. Sometimes during hard weather dreadful havoc is made among these birds. I have been informed that ninety were killed at one shot.

Great numbers of Dunlins used to be sent to Leadenhall Market every winter from the south-eastern counties. One of the principal salesmen there told me in 1841 he had had as many as 100 dozens sent to him in a single day. I have frequently seen great numbers and have examined them there in hopes of finding something rare, but unsuccessfully, the only other species amongst them being an occasional Purple Sandpiper, I was looking for Pigmy Curlews or Little Stints in winter plumage. I find a remark I made years ago of having examined an old Dunlin changing to winter plumage, and I have added I feel pretty sure that the edges of some of the back feathers (probably those renewed during the summer) alter their colour, and they then assimilate with the new winter feathers, and are not distinguishable from them.

Though this delicate-looking little bird is sufficiently hardy to live and procure food with us during our severest weather in winter its migration in summer to breed does not seem to extend to such high latitudes as that of some other species which are not able to exist with us during winter, but which merely pass us on migration to and from their breeding grounds. It appears to be less common further eastward than with us; probably we are more directly in the line of its migration. Whether the

American form of Dunlin is a distinct species I leave others to judge who are more able to do so than I am, but it is evident the American bird's seasonal changes in plumage in all respects agree with those of the European one.

Bewick's figure of the Purge is a young Dunlin of the year acquiring its winter plumage, most likely killed in October; and his lovely figure of the Dunlin, which is in complete summer plumage, shows the ordinary plain tertials of this species merely faded, and not changed in colour as might be expected. There is no doubt but that if this species ever had its tertials or wing coverts renewed in spring they would come with the rusty-coloured edges characteristic of the season, but why one species nearly allied gets some tertials and wing coverts renewed at this season as part of the summer plumage and another does not seems unintelligible to us at present.

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#### PECTORAL SANDPIPER.

##### SUMMER PLUMAGE.

Killed on Whitley sands, 27th June, 1855, by Duncan, of whom I bought it. It is the only authentic bird I ever knew killed in the North of England. There seems great doubt about several recorded birds of this species having been really killed in Britain.

In the British Museum I saw a bird marked Pectoral Sandpiper, but which I think is only a young Dunlin (American from its size) half-changed to winter plumage, as we see them here in autumn, but really the birds are in such a sad condition it is scarcely possible to make out what they are. I went there as I was desirous to know something more of this bird, and by this time I expected to have seen the various kinds of birds so arranged that any one seeking information about them would be able at once to see each species (separated from others) in its various states of plumage, and to have had his attention at once called to the changes in plumage each species was subject to, or that some one would be in attendance to give information

inquired for. Merely having stuffed birds mixed altogether teaches no one anything. A national museum should be instructive ; if it is not, of what use is it ? I confess I was greatly disappointed at not being able to see our ordinary birds arranged so that any one could see at once which were of the same kind. If the persons in charge of such an institution do not know the species, and are unable to arrange them, how is it likely those who often send notices to newspapers of rare birds having been seen or procured are correct as to the kinds they write about.

When one sees collections of shells or insects we generally find them arranged so that the species can be identified even by an unlearned person. Why is some attempt at such an arrangement not made with the birds ?

Any one going to the British Museum to look for a bird to see its variations in plumage is utterly lost. He *may* be able to find the kind he is looking for, more likely he will not find it, or at any rate recognise it. I went to find the Buff-breasted Sandpiper, and to learn its changes. Can any one do this ? The use of a public museum is to give seekers the information they want. Even our common birds, the plumages of which I have been writing about, in the British Museum can any one trace these, or answer why they are not or should not be arranged, each species in a distinct group.

Far more people would take interest in the collections could they understand what they see, but unfortunately, as at present, it is impossible for them to get almost any information they might wish to have. If there was a collection of birds arranged as I point out ornithology would be a pleasant study. As it is it takes a lifetime to know the birds in their different states of plumage, if you then are able to get them. Now, as we have a close time for so many months, during which some of the birds are in their peculiar plumages, and no public collections of such exist, it will not be in the power of any one to get the kinds he wishes to illustrate his private collection or to study the birds from, as even can the dates on foreign skins stating when the birds were killed be relied on.

## PURPLE SANDPIPER.

## SUMMER PLUMAGE.

1.—Female, shot at Hartley, 9th May, 1839.

2 and 8.—Males, shot at Newbiggen, 14th May, 1840.

This Sandpiper is met with on the Northumberland coast during the winter months pretty commonly, where the rocky portions of it suit its habits, but it is not very easy to obtain it in its summer plumage, on account of its early migration; I have, however, sometimes met with it till the middle of May. It does not seem ever to congregate in very large flocks, but you often meet with four or five together. It is always a tame bird. I have seen them not even rise when shot at, probably not hearing the report of the gun, in consequence of the noise caused by the waves breaking on the rocks they are found on. When they do fly they seldom go far. They seem entirely marine birds, feeding on small shells they get on the rocks when the tide is low, and in consequence they feed easily in winter, and probably they do not migrate far south, in consequence of their being independent of fresh water altogether. In searching for food they actively turn over the short leaves of the common black seaweed when growing on the rocks, and they also pick up small shells on the bleak and exposed rocks often covered with *Balan*i and Limpets in the corners of which they find them.

It would appear to be a very common bird within a certain belt in America as well as in Europe, not extending so far north as some species, as Captain Sabine mentions their breeding all along the coast of Davis's Straits and Baffin's Bay, but not met with on the islands in the Polar Sea. I have seen many of them brought from Greenland by the whalers, and probably its belt of breeding ground extends to very little north of us, but that it ever bred in England or the mainland at any rate of Scotland is improbable.

Some old birds occasionally come to us after breeding before commencing their autumnal moult, but I never saw one

killed on this coast moulting its quills. These early arrivals seem to pass on, I have shot them as early as July 31st.

I have shot young of the year in rare instances as early as September 3rd in its first plumage, but only stragglers; they as a rule only arrive in October, when they have acquired their winter plumage on the back. They invariably keep to the rocky shores, I never saw them on the mud or sands.

Just before they migrate northwards they are often in company with Turnstones, I have killed them at the same shot.

This species is better able to bear cold than other Sandpipers, as it seems to be a resident in Iceland, and the most common species there, breeding upon the high levels among the mountains, and collecting in large flocks on the coast during the winter.

Faber mentions having often shot this bird in summer. He says it rarely lays its eggs in the stony valleys, but he found an old male bird with a young brood a few days old in such a situation on the 22nd June, 1821. The young attempted to escape by hiding themselves while the parent bird dragged himself upon his belly along the ground with ruffled feathers and an anxious piping cry. He adds they return from their breeding places to the sea coast about the end of August, and they are then to be met with about the heads of the small inlets, where they remain till the middle of November, at which time they collect in immense flocks on the shores of the open sea to spend the winter. He says many flocks may be seen on the beach even in the middle of June when the greater part have retired to the mountains to breed. Like the Dunlin they appear to live always in flocks. This bird is the tamest of the whole genus. It feeds upon *Neritas*, *Patellas*, and other kinds of testacea and mollusca, but can only procure them when the rocks are bared by the ebbing of the tide. At this time therefore it is exceedingly active in procuring its food, searching for it even in twilight and by the light of the moon, and is perfectly able at that time to guard itself against the waves that break over the rocks. It swims very slowly, but is more frequently seen on the water, and at a greater

distance from the coast than any of the preceding species. He has seen it in winter mount quietly on a piece of ice, and thus allow itself to be borne away upon the foaming waves.

I have often wondered to see how beautifully this bird and the Turnstone when on the furthest out rocks feeding avoid the waves coming in, which one would think would wash them away. They however, when the wave breaks over the rock on which they were standing, merely open their delicate wings, rise, and alight on the same spot immediately the water passed, and again left the rock exposed. When put up they generally utter a faint cry resembling "*weet wit.*"

In England it seems not to be nearly so either generally or numerously dispersed as the Dunlin during the winter, though common on our Northumberland rocky coast during that time.

December, 1848.—I have been much amused lately with these birds; one day I was walking and I saw four of them upon some rocks. They were picking and apparently tugging the short seaweed with their beaks. They were so tame that I was within a few yards of them. After watching them for some time I mischievously took up a stone and threw it at them. I repeated the same thing several times and was pleased to see how easily they avoided being hit, although the stones several times hit the places where they were standing, and had they not flown up must have hit them, so admirable was their sight that they merely flew up until the stones hit the rock on which they had been standing and alighted again immediately afterwards. It is curious to see these little tame birds, which seem so averse to taking wing, when they do so, the rapidity with which they can fly is astonishing. The young of this bird is very similar to the old one in summer, but the old one has each back feather indented with rust colour, while the young one has those feathers margined only with that colour; and the old bird, both in summer and winter, has the tertials and wing coverts quite plain, while the young bird has the tertials and wing coverts all edged with white. In the complete summer plumage the tertials and lesser wing coverts of this bird, as well as in the Dunlin and

some others, one would think ought to be changed, though they seldom do change their colour at all, the only difference being that in the summer they get much worn. Some which I killed early in October were young birds, and had scarcely begun to change to their winter plumage. I never by any accident heard of one being seen inland.

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## LITTLE STINT.

### YOUNG OF THE YEAR.

One killed at Prestwick Car, 23rd Sept., 1887.

Two Brough Marsh, 12th Sept., 1889.

Two Hartley, 12th Sept., 1848.

One Skinburness, 8th Sept., 1844, a single bird, which came flying past.

### WINTER PLUMAGE.

I have not seen here. Cooper of Carlisle wrote me he had twice met with it. He shot one on Brough Marsh 19th Nov., 1881, and he once stuffed one killed near Carlisle, but he could not remember the date.

### SUMMER PLUMAGE.

Shot by James Cooper, then of Carlisle, on Brough Marsh, 1st June, 1889; purchased by me at Mr. Heysham's sale.

Two sent as skins from South of France to Mr. Hancock, from whom I got them.

This is certainly a rare bird generally in the North of England as we are out of the line of its general migration, being too far westward; yet there are some parts where in the month of September, from the 12th to the end of the month, you may sometimes fall in with young birds on their migration southwards. In September, 1889, I had ten all young birds of the year sent



from Brough Marsh, but I could observe no material difference in their plumage some being slightly paler than others—their appearance there is more regular than on the east coast near here, none had acquired a single feather of the winter plumage.

In October, 1889, Cooper wrote about Little Stints at Brough Marsh. He says, "I never saw above two Stints at a time together previous to this year, but I saw twelve or fourteen in a flock besides numbers mixed amongst flocks of Dunlins; indeed, I have seen more this year by tenfold than I ever saw in all my life put together," showing the irregularity in the number of some migratory species which come to us irrespective of man's interference.

Young birds used sometimes to come to Prestwick Car, and to various parts of the coast as well at the same season. On the 28rd Sept., 1887, we got one at Prestwick Car, there were two of them flying over the flooded portion with the wind, and they really looked more like Goose feathers than birds. The one we got was winged and fell in the water, and when I got to it it was on the round leaf of a water lily. I know of no instances of its appearance in spring or winter except those before mentioned. When killed in autumn these birds are generally encased in fat, which is of a very oily nature, and oozes out of the shot holes if great care is not taken to prevent it.

Besides the much smaller sizes of this bird than the Dunlin it looks much whiter when running or flying past. On the 12th Sept., 1848, I walked from Tynemouth soon after five o'clock a.m. to Hartley Island. There had been a quantity of rain and it was very misty. On Whitley sands a young Greenshank ran out from amongst some sea weed which had been walled up by the tide, and was endeavouring to fly away when I shot it. I saw some Dunlins on some wet mud and shot into a flock of them killing two, another bird fell wounded which I followed and was pleased to find it a Little Stint. I afterwards saw six birds which I thought were Dunlins feeding in a pool of rain water high up on the sands, which part is only covered at spring tides. I killed three of them, and was again pleased to find

them Little Stints, the others settled again amongst Dunlins, when the difference in size was easily to be seen.

In the summer plumage the Little Stint resembles the Sanderling in the same plumage more than it does some other species. For a long time I thought it resembled the Dunlin, and in the young plumage it certainly does to a certain extent, but in the summer the resemblance to the Sanderling is very striking. In the latter named species in spring many of the wing coverts and long tertials get the red of summer, as they do in the Stint, which they seldom if ever do in the Dunlin. The beak of the Stint also is about of the same proportion to its body as in the Sanderling, but in the Dunlin it is much longer. In the summer the Little Stint could hardly be mistaken for Temminck's Sandpiper, it is so much prettier; the latter generally looks dingy, while the Stint is as bright as possible. In the pure white underparts also the Stint resembles the Sanderling but the absence of a hind toe in the latter bird has led many to take it totally away from those species to which it is closely allied.

Cooper's description of the Little Stint, which I now have in summer plumage, in a letter he sent me is as follows—"The Stint that I killed in May last differed from those that I sent you in having more of the reddish brown upon the upper part of the head and back, the sides of the neck and the upper part of the breast marked with the same colours, that is, each feather so coloured upon the breast has as it were a black pupil a reddish brown iris and margined with white which give it a very pretty spotted appearance."

The Little Stint of Europe seems to be represented in America by a different but very closely allied species. Its breeding ground seems to be a rather narrow belt in Northern Europe and Asia, but its range of migration seems to be very extensive, probably spending our winter very far south of us, and out of the way of any frost interfering with its being able to feed near fresh water when it wished to do so—wise little bird—though it is often described as a winter visitant to England, it is so wrongly.

My friend Mr. Seebohm had the pleasure of adding much to our knowledge of this little fairy bird's history during his Petchora expedition, an account of which may be found written by him in the "Ibis." He was the first Englishman to find its eggs and young and bring them to this country. Whilst looking over the proof of what I had written respecting this bird I have had the pleasure to receive through his kindness a copy of his beautiful book "Siberia in Europe," in which I see an account is also given of the birds he met with.

Though during September in several years I have travelled over the mud and sands at Holy Island, and also over the adjoining grass-land, by permission kindly given by the Lord of the Manor Mr. Crossman of Cheswick, and which is occasionally in wet weather much flooded with fresh water, I never met with this bird there, the very places it would seem likely for it to be at during its autumnal migration; however, considering the enormous extent of likely ground on which it might be, it is quite possible it may have been there and escaped observation, as it is only a rare and occasional periodical visitant, and seldom remains more than a few days in passing, if so long.

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### TEMMINCK'S SANDPIPER.

#### YOUNG OF THE YEAR.

1.—Male. Sent to me recently killed by James Cooper, who had shot it at Rockcliff Marsh, Sept. 2nd, 1889.

2.—Killed Town Moor, 11th Sept., 1844. Probably a female, from length of toes compared with the other bird.

#### SUMMER PLUMAGE.

8 and 4.—Two skins from France from Mr. Hancock in 1844, evidently killed when migrating north to breed.

5.—One killed on the King's Meadows by Davison, from whom I bought it, 25th May, 1848.

I have never seen this bird alive, though I have met with and killed all the other species of waders met with under ordinary circumstances except it and the Black-tailed Godwit; it is certainly a rare bird, as I have looked attentively for it. Breeding as it appears to do commonly in Northern Europe one would expect to meet with it oftener, but its migration must be more to the east of us. It seems strange its summer plumage is not more perfectly acquired than it is, you rarely see one more than half changed. I never saw it in winter plumage, but it must be very abundant where it passes that season.

When the young of this bird visits us during its autumnal migration it does so most regularly as to time, merely in passing during the first few days in September. I never saw one having commenced to get its winter dress. In answer to my enquiries about this species Cooper of Carlisle wrote me in 1889:—"I never saw an old Temminck's Sandpiper, the only young I ever saw were three, two of which I killed, on Sept. 1st, 1882, and one on the 5th of the same month and year, besides the one I sent you."

Its belt of breeding ground is perhaps not very wide. It probably does not migrate very far north comparative speaking, nor yet does it breed anything like so far south as the Dunlin, but it may have an extensive range eastward. It is not I believe found in America.

Mr. Seebohm was good enough to give me two eggs of this bird brought by him from the Petchora district.

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## RUFF.

### YOUNG OF THE YEAR.

1.—Skinburness, Sept. 11th, 1844. This bird had been feeding on caterpillars.

2.—Prestwick Car, Aug. 17th, 1852.

3.—Holy Island, Aug. 29th, 1878. At the same shot I killed a Starling which I never saw till after it was shot, one of my children who was with me having seen it fall.

## WINTER PLUMAGE.

*Males.*

Leadenhall Market, January 6th, 1842.

These are the only mature Ruffs in winter plumage I have met with, all others being young birds partly changed, that is, having the tertials and wing coverts of the young bird; one of these birds had whitish legs the other bright red legs; they had been feeding on beetles.

## SUMMER PLUMAGE.

1.—Leadenhall Market, Ruff, May 7th, 1842.

2.— „ „ „ „ Reeve, April 22nd, 1842.

3.—Ruff (flying), Prestwick Car, May 12th, 1854.

Sept. 5th and 6th, 1886.—Met with three young birds, a male and two females, on the Town Moor when with Mr. Hancock, all of which we got: he has now one of these stuffed. The following year, about Sept. 14th, many were shot at Prestwick Car.

April 18th, 1840.—Male shot Prestwick Car without frill, partly in summer plumage, resembling Bewick's Red-legged Sandpiper which is only a Ruff in a similar state of plumage.

August 11th, 1851.—Shot young bird at Prestwick Car.

Nov. 11th, 1851.—Saw a young male not yet commenced to moult to its winter plumage.

In May, 1854, a small flock were at Prestwick Car and remained for a short time; several were shot, they had left by the 15th; when they first arrived the ruff was not complete. I also find from my note book that I saw a Ruff at Prestwick Car on the 18th April, 1855, and also one on the 28rd April, 1857.

August 19th, 1855.—Two young Ruffs at Prestwick Car.

On Sunday, May 10th, saw Ruff and Reeve at Gosforth Lake, the same day we saw the Wood Sandpiper, but they kept much further away from the edge. Two days afterwards we walked

all over the half dry lake with Mr. Bastard with his gun in expectation to see the birds but they had left. This Ruff had a white ruff, the body appeared pale brown, much lighter in colour than the Reeve. I did not observe ear tufts, nor did he raise his frill whilst we watched him with a glass, it merely hung down at the side of his neck. The water had been let off and a quantity of black mud was left exposed on which the birds were.

January 19th, 1872.—Bought a young Ruff at Brown's fish shop. They said it was sent from Hauxley with the fish. It was in winter plumage except wing coverts, which were those of the young bird. Its gullet seemed full of meat, and Mr. Hancock (to whom I gave the bird) and I examined it and found it crammed with barley, husks and all.

This singular bird differs from any of our wading birds in being polygamous, and I may almost say from any sort of wild bird in the curious variety of its plumage. As far as I have been able to observe the birds of the year, both male and female, resemble each other in every respect as many other species do (except in size); all their legs, feet, and beaks are the same colour, and the plumage generally differs only in being a little paler or darker as is the case with other species but invariably uniform in markings, and I have no hesitation in saying that the first winter plumage they get will be similar in all, but after that how to account for every variety in colour which one meets with is difficult. I have examined great numbers of them in the spring, both before getting the summer plumage and after completing it, and certainly far the greater number had dark legs; some had orange and some white legs. Now I am inclined to think that the young of the preceding year keep their dark legs, and that the paler legged birds are older birds. In two which I got in January and which were old birds then in their complete winter plumage, and which I am certain were old birds from the state of the wing coverts (that is older than of the preceding year), one had bright orange legs, it had also several white feathers about its head and face, the other had white legs, and it had many more white

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to do so through the summer, and then as summer condition in the bird waned gradually again assimilating winter plumage, and many of the feathers acquired during summer changing to the colour of those of winter.

I do not think this is the case with all species or even individuals, but old female Sanderlings on arriving here in August have often acquired one half of their new back feathers, and these apparently renewed seem in every gradation from summer to winter, and are certainly not the old worn feathers we see in old birds which have not commenced to moult on arriving here at the same season of the year.

Bewick's figure of the Sanderling is evidently taken from a young bird of the year killed about the end of October, having nearly acquired the winter plumage on the back, but retaining the tertials first acquired, which in a mature bird would have been cast for the plain grey feathers of the old bird's winter plumage. His elegant figure of the Pigmy Curlew is a young bird in its first plumage, undoubtedly killed in September, but in the letterpress one is led to believe it had been killed in January. It had been *given* to the author by Mr. Bullock at that time, but the writer adds that it was shot among many other birds which had been driven from their northern haunts by the extremity (? severity) of the weather during the very stormy winter of that year (1814), which certainly is a mistake, as the bird would then have acquired its plain grey plumage on the back whether a mature bird or a young bird of the previous summer.

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## NORFOLK PLOVER.

### SUMMER PLUMAGE.

Male, May 1st, 1842, Leadenhall Market.

I am not aware of the changes in plumage of this bird. Both birds and eggs were pretty common in the market. The birds

generally trapped, as their broken legs showed. The gizzard contained fragments of beetles and sharp pieces of flint.

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## PEWIT.

### WINTER PLUMAGE

- 1.—Pied bird (young), acquiring its winter plumage.
- 2.—Male, shot on coast during severe frost, Dec. 10th, 1844.

### SUMMER PLUMAGE.

- 3.—Male, Haltwhistle, April 18th, 1845, with black throat.
- 4 and 5.—Prestwick Car, February, 1852, assuming summer plumage.

In one of my rambles on the Solway shores looking after birds in May, 1847, I met with a man named Mott gathering Pewits' eggs. He told me he had gathered them for many years, having commenced to do so in the fen countries, but that so many followed that trade there he had been forced to seek new grounds to make a living. I really forgot the quantity he found during a season, but it astonished me. He gathered them from a large tract of country, visiting a certain quantity of land each day at regular intervals. He used a stick, which he stuck in the ground, to guide him to where the nests were. He came to the district in April and returned to his native country the first week in June, the season being then over. He sent me some interesting varieties of Dunlins' eggs he found when looking for the Pewits.

I have often shot Pewits by moonlight from behind hedges as they flew scattered over the ground, and also when looking for Ducks when none were flying.

Pewits seem to be able to lay any number of eggs; no sooner are their eggs taken than they lay again without forsaking the locality. Is it probable they lay in exposed places as taught by Nature, and in consequence the eggs are easily seen by Crows and other birds, and that their eggs were intended as food for them at

that season, and the birds were created prolific for this purpose. The allied species lay their eggs less exposed, and there is less probability of their being found, and they are much less prolific.

The young Pewit's feathers on the back and other parts are edged with brown, and sometimes the larger feathers and the tertials are spotted, showing kinship to the Golden Plover, but with fewer spots. The young of this bird in great measure resembles the young Oyster Catcher, also showing affinity to that species; but how different they are in some other respects, the number of eggs being different, besides the formation of the beak and form of the wings.

I procured a series of curious eggs of this bird in Leadenhall market both as regards colour and shape; some very small, one as large as a Golden Plover's egg, but characteristic of this bird; some white and others very dark, some almost black.

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## GOLDEN PLOVER.

### WINTER PLUMAGE.

1 and 2.—Male and female, killed on the coast during a severe storm of snow, Feb., 1844, whether a great number were driven in consequence and numbers were shot.

### SUMMER PLUMAGE.

3 and 4.—Leadenhall market, May 4th, 1842.

5.—With wings up, Prestwick Car, April 18th, 1845.

The Golden Plovers sent to Leadenhall market at this season are often in particularly fine plumage, more so than many of those breeding on our moors, but which have eggs before these migratory birds are taken, and which are evidently only on their journey to some northern locality.

In Sept., 1844, quantities of these birds assembled on the salt marshes at Skinburness, which, when the tide receded, went on











to the scars to feed, and in dry autumns immense quantities often congregate on the mud on the North Northumberland coast, which is left exposed except at very high spring tides.

I have met with pairs of old birds on the moors after the young had congregated in large flocks and gone to the lower grounds, but they might still have late broods of young which did not show themselves.

Mr. Seebohm showed me a young Golden Plover in its first plumage and asked me the month it was shot in, I said August, as it had not cast a feather. He looked at the label, it was from Heligoland, killed on migration in October, but no doubt it had been reared in Northern Europe, and in consequence probably not hatched till July, which circumstance accounts for its being two months later in its young plumage than it would have been if reared on our moors and hatched early in May.

This is probably about the southern limit of their breeding belt, but it seems to extend considerably to the north so far as the southern limit of the Grey Plover's breeding ground, but its eastern limit is less extensive than that of many other of our wading birds, another species nearly allied being found in Siberia and India. My son meets with the Asiatic bird in Burmah after the breeding season.

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### GREY PLOVER.

#### YOUNG OF THE YEAR.

- 1.—Male, Whitley sands, Sept. 16th, 1839, from a small flock.
- 2.—Prestwick Car, Oct. 17th, 1842.
- 3.—Hartley, Sept. 14th, 1846.
- 4.—Coast, Dec. 13th, 1844. This bird is acquiring its winter dress, but the new feathers which should be grey are blotched with yellow. Why is this?

## WINTER PLUMAGE.

5.—Leadenhall market, March 15th, 1842.

6.—Coast, February 11th, 1847.

## SUMMER PLUMAGE.

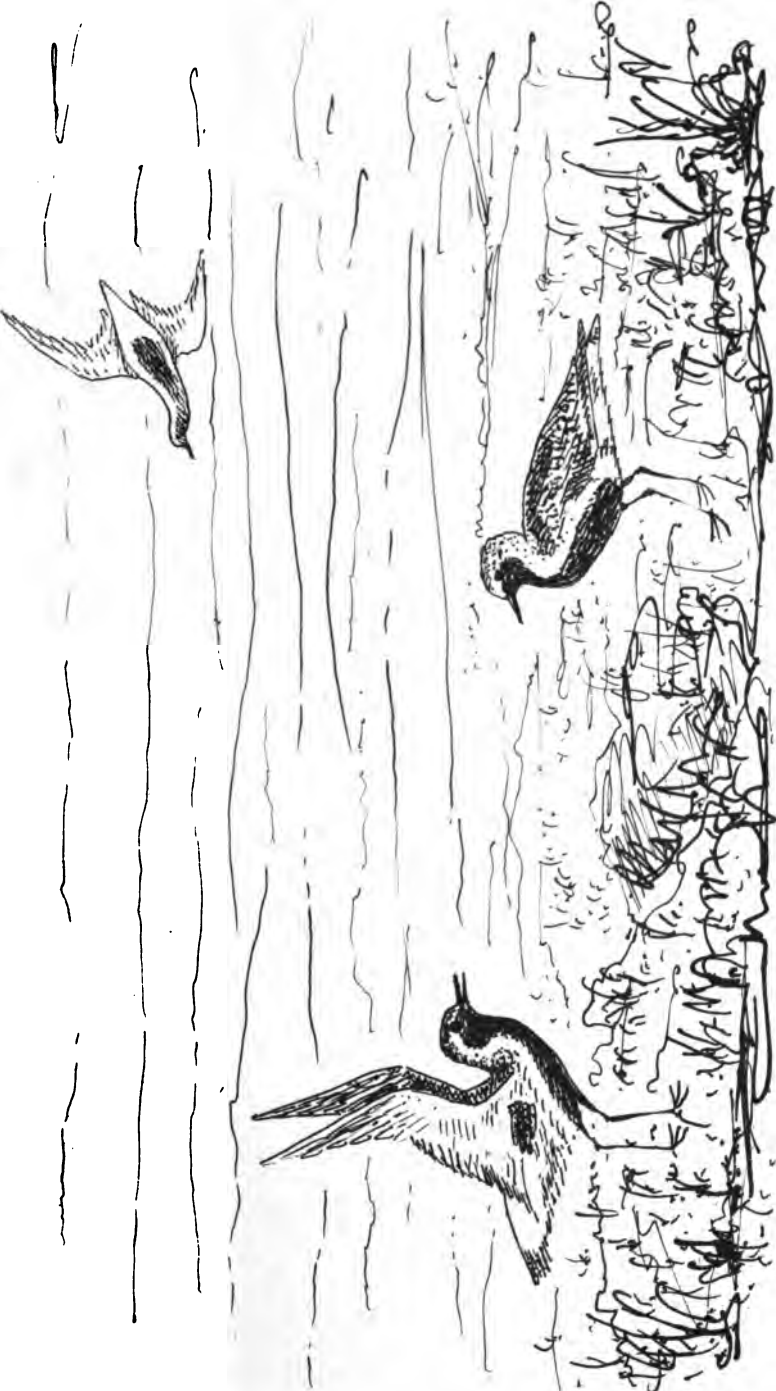
7.—Male. Sent from Yaxley Fen with others to Mr. Hancock May, 1848. He stuffed them, and I afterwards got this one from him.

8.—Female, Leadenhall market, May 12th, 1842. I had several others, some more mottled on the back but not so black on the breast. Killed when going north to breed.

9.—Female, Hartley, August 20th, 1862. Returned from its breeding grounds and on its southern migration.

The Grey Plover may be considered a winter visitant, as from the time of its first arrival in August it is found on the shores till its departure in early June to breed, not that this country is the limit of its southern migration, but because some passing southwards or northwards might be met with nearly during any time between the months mentioned besides those which are found during winter. On the 15th August, 1844, I saw one shot on Blyth sands, which had nearly completed its autumnal moult. It had bred, as the bare places on its breast were quite conspicuous. The colour of the summer feathers which remained was apparently almost washed out, and the belly, which had been black, was much faded. I was sorry I had not time to examine this interesting bird minutely.

Mr. Duncan shot a very complete summer plumage bird early in August, 1880, at North Sunderland, which apparently had not commenced to moult. On the 10th Sept., 1878, I met with two Grey Plovers still with black breasts near Holy Island which were with a small flock of Dunlins. When they rose I knocked over one of each kind, but unluckily the Plover was only pini-  
oned, and it flapped away into the tide, which was ebbing fast, and we lost it. I took every pains to recover it by going for a











boat to try to intercept it as carried out by the tide, but without success.

I have frequently heard the note of the bird in August and early in September, but the old birds on the slake are generally far too shy to be taken in. The young birds are much less shy when they arrive about the middle of September; I have not observed them earlier than that time.

The species is more common during September than at any other season in the North of England, many wander much further south during winter, staying with us for a short time during their southern journey. I have seen several killed during the winter on various parts of the coast, but they are generally young birds of the preceding summer more or less changed to their winter plumage. Most of those which have wintered on our coasts seem to leave us previous to getting any of their summer plumage, but in May and the beginning of June a few appear at various parts of the shores in the south of England. These appear merely to rest for a short time on their way to their breeding places, I have known them occasionally at that time at the Solway, but their breasts were not quite black. I have seen several in Leadenhall market having nearly completed their summer plumage. When with us the Grey Plover generally keeps by the sea-side, I have however had it killed some miles inland. The one killed at Prestwick Car had its gizzard full of *Helix putris* and other marsh shells. No instance of the Grey Plover's having remained to breed in England or Scotland has occurred, but the lateness of its stay has induced some of us to believe that it does so; but supposing that some remain with us even until the middle of June (their earliest appearance on the coast again is August), they would have had time to hatch and rear their young and come back by then. It is perhaps probable that the young of those which return so early may have been destroyed, and it being too late for the old birds to breed again that season, they have migrated earlier, or what is most likely still is that the young of those which remain latest away from the breeding places are the latest to arrive, and probably some of

those which have arrived earlier may have had eggs some time before the later birds arrived, and the young of the early birds and the early birds themselves have left their breeding places before those which arrived late were able to do so. If this were not the case it would be difficult to conjecture why in two young birds of the same season, one has completed or nearly so its winter plumage by October, and the other retains its first feathers until April the following year, as sometimes appears to be the case with this species.

It seems strange that the young Grey Plover is frequently spotted with yellow on the head and back. Most young birds of the wading kinds partake of the colours of the old bird in summer, but are much paler in tint. Now the old Grey Plover either in summer or winter has no mixture of other colours but black and white.

A young bird of the year which I shot on the 16th September had some down, just where the feathers join the naked skin of the leg not then worn off.

In the gizzard of an immature bird which I examined this winter (1844) was a quantity of green seaweed, also some maggots of the seaweed fly and some small shells. The Grey Plover does not appear to collect in large flocks like the Golden Plover, you very often see one alone.

I have seen the young of this species from Madeira where it was killed during the autumnal months.

September 30th.—For the last week or ten days, on the slakes, there have been flocks of about eight flying about, but they generally keep scattered, and do not offer a good chance to shoot more than one at a time. What a lovely bird a strongly marked young one is. One I shot was strikingly beautiful; I got it from a flock of eight, I heard their call note, and presently they came over high in the mist and scattered, but I got one. Each feather on the back was spotted with rich yellow, and the small back feathers nearest the scapulars were so pretty as it lay on the ground, it struck me no combination of tints would so well conceal a young bird when lying down amongst rocks and

lichen-covered stones, the places where probably they are hatched and reared. The note of the bird partly resembles both that of the Golden Plover and the Pewit, being something like *quæ wee* or *ilee wee*. We ate several of them. Their flesh has a slight taste of sea weed, resembling much that of the Sanderling and Redshank, and is I think far inferior to that of the Knot, Godwit, or Golden Plover.

Mr. Seebohm very kindly gave me one of the eggs of this bird which he found during his expedition to the Petchora river.

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## DOTTEREL.

### YOUNG OF THE YEAR.

1 and 2.—From Blanchland, Sept. 20th, 1839.

### WINTER PLUMAGE.

3 and 4.—Males. Town Moor, May 15th, 1847. Killed with others in their summer plumage.

### SUMMER PLUMAGE.

5 and 6.—Male, Town Moor, 11th May, 1838; female, Alston, May, same year. Rather common this year; Mr. Hancock and I met with them on the 17th.

1837.—May 9th and 13th, I had Dotterels each day.

1847.—I had Dotterels' eggs from Cumberland this year.

1850.—April 25th, got a Dotterel at Killingworth station, when starting for the Coquet to fish. It had been killed by flying against the telegraph wires.

This species is known to us in the North of England as an occasional summer resident, but on account of its very secluded habits during the breeding season and the situation it chooses for its nest, it often escapes observation. In England generally it probably might be said that it merely passes us to and from

its more northern breeding grounds. In some years in places where the nest has been found even the bird has been looked for in vain in succeeding years. In Northumberland its periodical migratory visits are almost entirely confined to the spring of the year, the young of the year killed in August and September being of rare occurrence. It is met with rarely on the moors during those months. In some parts of the south its return in September appears to be as regular as its appearance here in April and May.

A few flocks composed of eight or ten of these birds used to come most years in May to the Newcastle Town Moor, where they remained for a short period. Their arrival, however, was always looked for and many were shot, as they are often easy to approach till much disturbed. It seems singular how birds find their way to places which have been previously visited by others of the same species. With the Dotterels it might be said that there might be old birds amongst them which had been there before, but in many species only the young of the year come annually to some particular fields or marshes: what informs them where to go to? The Dotterels are not only partial to fields or commons the species has appeared at before, but they even come to the same spot on a field or common, or very near to it, year after year.

One reason for the Dotterel having become rare during summer may be that its feathers are or perhaps were used for making artificial flies for fishing, and as the lake districts are great fishing places, and as the only breeding places of the Dotterel are the mountain tops in those districts as soon as they arrive in the spring they are sure to be killed if observed. During the time that they remain in this country they seldom show the wild disposition which is characteristic to the Plover tribe, but the great difficulty in observing them on the ground perhaps occasions them to be more rarely seen than were they to take flight earlier. I have been informed by James Cooper, who found their nests on two occasions, that the bird itself when on the ground was most difficult to see, and that he was standing in the midst of a flock





before he was aware he was near to any. One of those nests was found very late in the season, and the flock which he then saw was composed of old and young birds, some of which were shot. The nests he informed me were most difficult to discover, and had it not been that the old birds flew off, it would have been impossible to find them. Now it is just possible that many more may breed with us than we have any idea of. Still it is a well-known bird, and every person living in the districts where it is likely to breed when asked respecting it, says that it comes some years and some it is not seen, and these are generally shepherds or persons accustomed to travel the districts daily, and if it was there they would likely see it. Like most other species that visit us as they do, when they arrive in May the greater part of them have nearly completed their summer plumage, while some have hardly commenced changing from their winter plumage, but they are generally more than half changed. In a memorandum I have dated April 28 is—"I have just got two Dotterels in their winter plumage, in which state they are rare in England. They are quite in the moult, and seem to be undergoing a complete change even the quills are changing, and underneath where the winter feathers are raised up the summer feathers are coming black and brown." These would most likely be young of the preceding year, but it is singular they should at this season be moulting their quills. The female gets the summer plumage before the male, and is always the handsomer bird. The male has the back feathers more broadly-edged than the female, but the latter has the top of the head blacker, the eyestreak and the black and brown on the belly much purer. When merely resting on its migration with us it is usually found on fallow fields or bare grass land, but when breeding it keeps to the moss-covered hill tops. I never heard of its being by the sea side while with us. I am quite unacquainted with its habits or where it remains during winter, but it is probable that at that season it will retire to some warm sandy plains, where it can obtain a supply of food, which consists when with us of beetles and their larvæ. When killed in spring the Dotterel is generally in



very good condition, and at that time when so few sorts of birds are in season it is or perhaps was considered a delicacy. It seems to be common in Sweden and Norway. In the summer of 1889 I asked James Cooper, who had found the two nests of this bird for Dr. Heysham of Carlisle, as mentioned by Yarrell, to go to the same localities to try to procure me the eggs, but he failed in finding them. In a letter I had from him, dated 8th July, 1889, he wrote—"I started for the mountains between two and three o'clock on the morning of June 26th, made the neighbourhood of Buttermere, climbed the mountain 'Robinson,' where I had seen the greatest number of Dotterels on former occasions, but sought for them this time in vain. Could not see a single bird. Crossed over into Borrowdale, slept there all night, with the intention of examining Bowfell and the more unfrequented fells about Sca. The morning, however, was dark, and the mist rolled along the fells in dense volumes, a drizzling rain began to fall, and by the time I reached Scathwaite, a distance of four miles, the rain began to fall in torrents. I was obliged to give up the idea of climbing the fells under such circumstances, and returned to Rosthwaite, the village where I slept. The day began to clear near noon, started again past eleven o'clock for Langdale Pikes, having heard of Dotterels being seen there in former years, but could not see any. The afternoon and evening were beautiful, and I remained on the fells very late, but made nothing of it. Arrived at the inn in Grassmere about nine o'clock, slept there that night, and took breakfast next morning at the Nag's Head, foot of Helvelyn. I was acquainted with the people here, and enquired of the shepherd who was on the ground where the Dotterels frequent about Helvelyn, but he had not seen or heard of any this year, I therefore resolved to waste no more time but push on home, and arrived in the evening at Carlisle. We must wait patiently for another year, when perhaps I may be more fortunate." From this it would seem there is little certainty of meeting with these birds in Cumberland. Cooper was disappointed, and I think was not desirous to try another expedition with so disencouraging chances of success,

but I believe this was his last expedition, as he left Carlisle in August the following year.

In July, 1840, I went with Mr. Hancock to seek for Dotterels' nests. We stayed at Grassmere at night on account of being near Helvelyn for the next morning, and started to Wythburn, where we made enquiries about these birds, but were told none had been seen that year. We were not however at all dismayed but went and walked all along the tops of the mountains towards Keswick. We only saw two Ravens; hardly another bird of any description. When we started to climb, the morning was very misty, and I thought we were never going to get to the top, as when we got to the top of one hill another appeared in the mist. It however got out fine, and the view was magnificent. I remember to this day the mist clearing away by degrees till it entirely disappeared as if by a transformation scene.

From their being such likely ground in various parts of Scotland, and of such enormous extent, one would suppose in some districts these birds might be almost abundant, and probably they may be, as they are so difficult to see; but at the same time if they were, one would expect to hear of their being more often met with in autumn by Grouse shooters. Probably, however, they may migrate very early, and before the shooting season commences. Few persons perhaps during summer reach the ground inhabited by the Ptarmigan, who would notice so small a bird, particularly one so inconspicuous, even if they saw it. Though this bird seems to like misty mountain tops in summer it is evidently a delicate one. It never comes till all chance of severe frost is over, and it evidently retires very early in autumn. Probably during winter it may retire to the dry sandy plains of Africa.

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## RING DOTTEREL.

## YOUNG OF THE YEAR.

1.—Hartley, September 4th, 1888.

## WINTER PLUMAGE (if any).

2 and 3.—February 4th, 1889, and February 26th, 1845.

## SUMMER PLUMAGE.

4.—Blyth sands, September 5th, 1846.

By the middle of August I have seen the young of the year considerably moulted on the back and head to their winter dress, that is from the edged feathers on the back to their plain plumage.

This bird is perhaps the commonest of our shore birds at all seasons. Notwithstanding its being plentiful in many parts during the breeding season the times when it is most numerous are during its migrations. At the Solway, where flocks of hundreds together assemble just before their departure northward in May, a great many breed on a large tract of grass land, which is of a sandy nature, the herbage being rather bare, and the place occasionally flooded over by very high tides. It is very singular the habits of these birds are quite changed, as when in large flocks on the sands they are wild, but when on the grass breeding they are quite tame. It is singular that these flocks do not migrate earlier, as some of those which are breeding there have hatched their young before those flocks depart, which is often not until the first week in June.

As well as building on the sea shores some ascend the smaller rivers and breed on their gravelly banks, but they are much more commonly found near salt water at all seasons. You may generally know when you are coming near to any of these birds by the plaintive cry of *tu-e tu-e* which they repeat often, generally running a few steps between each repetition. I once found at Brough Marsh the nests of the three following birds

within a few yards of each other—Oyster Catcher, Ring Dotterel, and Pewit, which were literally close to each other, and a Dunlin had its nest also within a very short distance. All these were on the short grass.

I remember on one occasion at Rockcliffe Marsh, when there with Mr. Hancock, we found a lovely nest of this bird. It was placed amongst a bed of thrift in flower, and I think he carved out the whole nest to bring away with him, we were so pleased with its appearance.

May 25th, 1845.—Found several nests on Rockcliff Marsh, some contained the shells of hatched eggs only. These nests were placed at a considerable distance from any water on the grass in holes scratched out. One was made in the middle of some old cow droppings which had dried up, another was partly sheltered by an old log of wood which had been left by a flood. I observed when the eggs are fresh laid no bird remains near them, but when sat on the birds come very near and try to lead you away from their nests. I had often heard of this but had not seen it before.

I was once much pleased to observe how the young of this species tried to prevent my seeing it. I was walking along the shores of the Solway in the middle of September, 1844, when I saw a very small Sandpiper as I thought running amongst some small pebbles. I went towards the place, but was much surprised to see nothing of it, as I was certain that it had not flown, and being so late in the season I did not expect to see a young bird. I was quite astonished however on another person coming towards me getting nearer to the little fellow than he liked he took to his heels, when he was soon observed, and now that I had my eye upon him I endeavoured to keep it so, and I saw him go quite down to the water edge, where he clapped down as close as possible, and looked so like a round stone that had I not seen it go there I should never have thought it was anything but a stone; however, on my getting very near, he ran off, but after a considerable chase I caught it, and after admiring its

bright eyes and pretty appearance we put it down again, when as before it went almost into the water, where it remained until we were a considerable distance from it, when it again began to run about like as when I first observed it. Late as it was in the season I saw some afterwards which could only just fly. It is possible the parents had had their first broods destroyed, as the general time for their laying is April, or at any rate May, in which month I have found many nests.

When fully fledged they soon know how to make a good use of their wings, and during the daytime keep in flocks, and are then wilder than many other small birds. In the evenings they separate, and feed after dark along the sands and shores as well as on the grassy links, as I have often heard their cry when walking home. Just in the darkening of the evenings I have often followed them when on the sands merely to see them if possible on the ground, but their peculiar wedge shape and grey colour protects them from observation until you get very near them, as you may know by the cry of *tu-e tu-e* which they make when they fly off before you, but they seem to know well that you cannot hurt them at that time. I have tried to see them at moonlight but could never do so, although I have been sure I was close to them.

This little bird seems to have a very wide belt of breeding ground, and is perhaps common from our own latitude even to that of the North Georgian Islands, migrating there for the summer. It is also a summer resident in Iceland, arriving towards the end of April with the Dunlins, there it is said occasionally it also breeds near fresh water, and even among brooks in the lower levels among the mountains, but as here most commonly near the sea, and it remains till the end of September. It like most of these kinds of birds can swim well when obliged, but it seldom uses its powers in that way. It appears to be also met with in Greenland, Lapland, and the north of Norway, at which places it is migratory; it also appears to be met with throughout the year in Orkney and Shetland as here, but it is very probable that those which are on the coast here during winter have

come from the far north, and that those bred here go southwards to pass the winter.

The Ring Dotterel is described in Captain Sabine's account of the birds at North Georgian and Melville Islands (Parry's voyage) as being common there, but it is most probable that they will be the Ring Dotterel of the American Continent. Is our species a distinct one?

On the 2nd June, 1845, I saw some Ring Dotterels sent with Grey Plovers from the fens, and shot on migration. They appeared small and dark-coloured, more so than those we ordinarily see here, but they were not mine and I had not time to examine them. Are the northern breeding birds likely to be a race rather different from those breeding with us?

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#### KENTISH PLOVER.

The two skins were given to me by Mr. Brodrick, nephew of the late Mr. Selby of Twizell, when he lived at Belford, which I afterwards set up.

I did not meet with this bird recently killed in Leadenhall market in 1841 or 1842.

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#### TURNSTONE.

##### YOUNG OF THE YEAR.

Hartley, September 2nd, 1840.

##### WINTER PLUMAGE.

1.—November 10th, 1844.

Three males, Holy Island, September 16th, 1845. One only has completed its winter dress, the others moulting and having a portion of the summer dress remaining. Killed from a large flock.

## SUMMER PLUMAGE.

Two males, Hartley, May 16th, 1888.

Female, Brough sands, June 1st, 1840.

Male, Rampside, 29th May, 1845.

June 7th, 1846.—At the Farne Islands I saw and shot Turnstones in summer plumage from flocks.

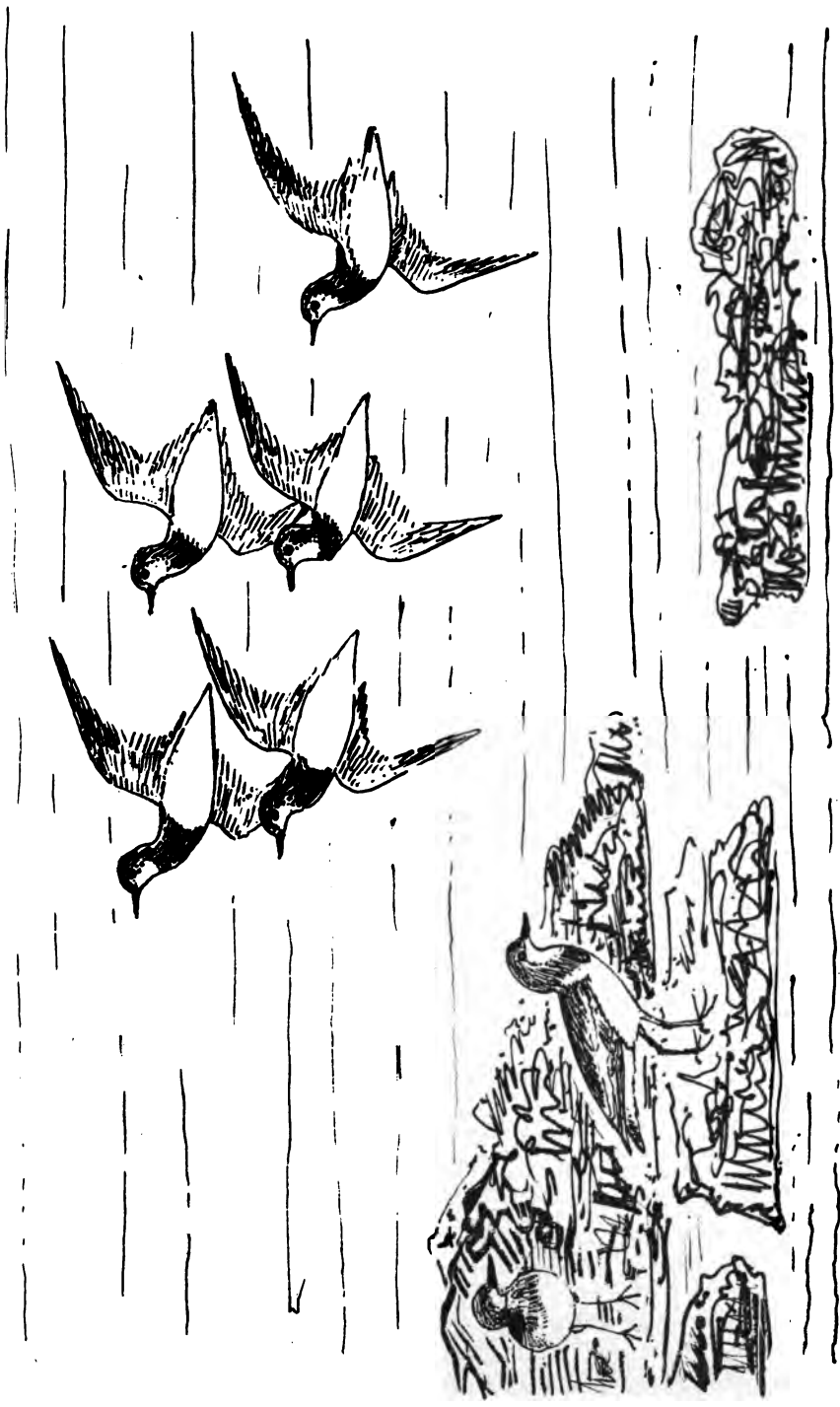
Late in May, 1845, near Rampside, in Lancashire, I met with a flock in their summer plumage, several of which I shot, and at the same season I have received several from the Solway.

On the 16th September, 1845, I killed from a flock of several hundred Turnstones six, as they flew past a small island near Holy Island on which I was concealed, at high tide, and on which they were coming to alight. Five of them were old birds and the other a young one. Two of the five had nearly completed their winter plumage, no summer feathers remaining, many of the winter feathers however being not fully grown. The other three old birds had more or less of the red remaining on the back and wings. I preserved three of them, which were all males.

In the middle of November, 1845, I shot several both old and young. The old birds had completed their winter plumage, and the young birds then had a great number of winter feathers on their backs.

I have found the maggots of the sea weed fly in the gizzards of these birds during autumn and early winter, which they find amongst the sea weed left by the high tides.

This bird is a common winter resident on our coasts, and is one of our earliest to arrive. The first which I have noticed have been old birds, generally alone, in their summer plumage much worn. These I have noticed as early as the 18th August. About the same time flocks of young are tolerably common. These increase in quantity during September, and many are on the coast during the whole winter. While with us they generally seem to prefer rocky to sandy shores, but they are often







found on the sands also, but never on the mud. They obtain their food, as their name implies, from the habit of their turning over with their bills the small stones and sea weed under which their food (which consists of small insects, sandhoppers, and shells) is concealed. When the mild weather fairly begins the greater part of those which have wintered on our coasts depart, yet flocks of them are not uncommon until the end of May, evidently migrating, and most of them are then in their complete summer plumage. Some are handsomer even than those killed at their nests. It seems to be a very widely-distributed species, being as common on the American coast as it is with us. It is truly a marine species, and does not even leave the coast for the purpose of breeding, as many of the Sandpipers do. The nests appear to have been found by Faber on a low stony reef to the north of Lindholm, a small island off the coast of Jutland. It is known on the Scottish coast and islands as it is known on our own coast. It is described as being very common during the summer by the Arctic voyagers, and I have seen them brought home by the whalers from Davis's Straits, from which gloomy regions during winter without doubt the many which inhabit our coasts are driven. In this species out of the flocks on the coast during September, in which month they are the most plentiful, it is not common to meet with an old bird. In Iceland it is most common on the south and west parts, where it arrives in April, and the most of them depart in September, although some stay much later; it has been noticed there till 11th December, but was not detected breeding. It was seen on the Island of Grimsoe, to the north of Iceland, in June. The females in their summer plumage are not nearly so handsome as the males. When in his perfect plumage he will vie with almost any bird for beauty. Like all the other Sandpipers the Turnstone has three distinct states of plumage—first, that of the young of the year, which by October gives place to the plain garb of winter, which is retained till the end of the following March, when the rich-coloured plumage of summer is assumed, and which is retained till the following September, when the plain

garb of winter is again assumed. In most of these sorts of birds the young of the year equally partake of the summer as winter plumage, not being nearly so gay and handsome as the summer, yet being perhaps even more delicately marked, while they are gayer than the plain plumage of winter.

The note of this bird when in flocks is a kind of a twitter, resembling the word "chicker," repeated rapidly when flying, but when in full plumage in autumn when returned from breeding, and before departing to breed in spring, it is more varied, and sometimes leads one to suppose it is uttered by another kind of bird. When in flocks on a shingly beach you sometimes are quite unaware of your proximity to a flock until they rise suddenly, and at the same time your attention is called to them by the hurried manner they go off in and their peculiar cry. Though differing in very many respects, as to the number of eggs and other matters, this bird often makes me think it has considerable affinity to the Oyster Catcher.

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#### COMMON GODWIT.

Two, August 30th, 1880 (one a male the other uncertain), changing from summer to winter plumage.

During the latter part of the month of August in my rambles on the slakes, I saw, as is usual at this time of the year, some large flocks of these birds which were unapproachable. I picked up several red feathers, and also some dark tail feathers of the mature birds, cast during the regular autumnal moult from summer to winter plumage, this proved some old birds were about this year at any rate. I may add there was at the time a continuance of south-easterly winds, which may have detained these old birds on their migration this year. A friend of mine went out with a small gun in his punt and he shot several young birds; the next day I accompanied him as a spectator to see if I could observe any red birds, but the shore is so wonderfully flat there are few









places you can take even a punt near where such birds ordinarily frequent, and although we saw some Godwits in the distance, only two young birds came within shot, flying over the punt.

Being very anxious to meet with a bird in its red plumage, and being satisfied some were about by the feathers I had found, on the 30th August I called at the watcher's house and told him I was going to try to shoot a red Godwit. I then walked to the Sandriggs, which are very far out, about high tide, and the tides being poor there was little danger of my being overtaken. I saw many large flocks, which flew out of sight. One flock of about twenty birds I saw coming towards me, and I lay flat down on the sand. I shot at the flock, which came high, from the north to the west of me with a now old-fashioned Eley's wire green cartridge No. 8 shot. One bird came flop down dead, another came sloping down, and on its reaching the ground it immediately tried to rise again, when I saw it was winged. I considered it my bird. It ran like a greyhound, I after it, but it had the advantage of one hundred yards start. It ran towards a deep gut running north, I stopped and shot at it, as I saw if it took the water the wind and tide would take it away, and I should loose it, but being out of breath, and the bird being at a great distance, I could not stop it, and it took to the water like a little duck. When I got to the water's edge I could easily have killed it, but I at once saw if I killed it any further attempt to get it was hopeless, as a strong S.E. wind was blowing, which made the water rough, and I could not see its depth, the tide running out fast, and it was a place where there are dangerous quicksands, and I was obliged to give it up as a lost bird. On seeing how matters were I left it to look after the other one, and after retracing my footmarks in the sands I soon found it, and to my delight, on picking it up, I saw its breast was red. He came down with such a flop his beak was broken by the fall. Well I wrapped him up carefully and put him safely into my bag. Having done this I retraced my steps to see if I could now see anything of my other friend, or as he would probably consider me his enemy; as the water was rough, I thought if



he could, on my departure, he would come ashore, but I could see nothing of it, though I searched attentively, and I concluded it must have been carried out to sea. However, as I could not cross the gut where I was, I went to the ford at some distance further south, and came back on the opposite side of the gut, all the way looking for it in case it had got across. By the time I got to the other side the tide had run out considerably, and the shore was stony, and if it had got there and had crouched on my getting near it, I could not have seen it, the extent of shore being now so great, and therefore I was obliged to wend my way back without it. However I was content with the one I had, and on passing the watcher's house I had the satisfaction of showing him the bird, I in the morning told him I was going to try to get. Though I was almost certain the other bird had been carried out to sea by the wind and tide, I followed the same route next day, but saw no Godwits. The following day also I went the same journey, still thinking I might find the bird if it had come ashore. I followed the high water mark, thinking it would, if alive, be driven up by the rising tide. After a long search on returning to the island, but at a distance from where the bird was shot, I saw a bird running at the edge of the water quite out of shot, which attempted to rise from the shallow water, but fell again into it. I now saw the bird was mine, as the water was quite shallow and the wind was blowing strong on shore. It again took the water, but I was quickly within shot of it and got it easily, as so soon as it was killed the wind brought it ashore.

Now as to the birds and their states of plumage. The first is in a curious state. Both have moulted considerably towards their winter plumage. I think both are males, but the paler bird I could not make out the sex of, as it was much injured by the shot, and was hit in the back; but it is strange there should be so much difference in their style of moulting. The dark bird would seem to have commenced to moult previous to its having lost its summer condition, as all the renewed back feathers and scapulars much resemble the bird's spotted summer plumage,

and the feathers renewed on the breast amongst the red feathers have all come bright buff (they looked when the bird was first killed almost orange colour), but I have little hesitation in saying that before this bird had completed its moult all these renewed feathers would have assimilated with its pale winter plumage, the bird's summer condition having entirely left it before that time. All the summer tertials are cast, and those renewed are plain, as are all the wing coverts, which are all new feathers, and which have no spots on them. It is quite clear that this bird has been moulting its back feathers for a length of time, as most of the renewed feathers have come like those of summer, but are not in the least worn, and evidently have been replaced since the bird acquired its breeding plumage in spring. On the breast it had a few white feathers much worn, which showed conspicuously amongst the red plumage acquired in spring, and also amongst the buff feathers now coming, these I think undoubtedly were feathers the bird had acquired early the preceding autumn, and having lost their vitality before the bird acquired its summer condition, they remained white all through the summer. They would undoubtedly have been shortly cast, and if the bird had entirely lost its summer condition, which it most probably would have done, before those feathers which would replace them had come, the new feathers would again come white. If they were cast previous to the bird's having entirely lost its summer condition they would begin to come buff, but probably would be white before they acquired the full size. This bird has not yet cast its top tail feathers, they being dark feathers of the mature bird which it got last autumn, but two light reddish-coloured spots or bars appear on these feathers evidently having changed colour during the summer by fading to a certain extent, and the faded part forming the bar or spot having acquired the red tint of summer, I think showing conclusively that the feathers some months after having come to the full size do change colour, as these mature birds only cast their tail feathers in autumn and when those renewed show no trace of red. Some new tail feathers are coming with the usual plain

dark outside edge, the tail of the mature bird, which it always gets on moulting.

The other bird had nearly lost its summer plumage, but the winter plumage acquired by it is quite pale as in ordinary cases. Evidently this bird had lost its summer condition previous to commencing to moult, but why the two birds differ so much in appearance I cannot explain further. In this bird the tail is changed and is plain, and all the renewed feathers on the back, breast and wing coverts are those of the ordinary winter plumage, *i.e.* plain, and without spots. In both birds the wings are in similar condition, the primaries in each up to about the third from the end being cast and renewed, those next the three outside in both being short, and the three outside still remaining to be changed.

The two Godwits were the only birds I shot in the three days, but I was amply satisfied with them. It is possible the paler bird may be a female, but the red feathers on the breast remaining uncast are entirely red, and not like the plumage we see the females in before departing to breed in April and May. I may add these birds I think help to prove my theory, which is that the colour of the feathers acquired when the individual bird moults, or its feathers other ways change colour, entirely depends on the condition of the individual at the time it acquires the new feathers, or the change in colour of its feathers takes place; this condition altering ordinarily, first when the bird begins to acquire its winter plumage from the young or first plumage it ever had, and also when it acquires its summer plumage from the winter plumage, and which would be the final change, except annual seasonal changes in those kinds which acquire their breeding plumage the spring after being hatched. In those kinds of birds which do not acquire their breeding or summer plumage the spring after they are hatched for want of their required age, the condition to make the feathers come in summer plumage is not acquired, and the consequence is some of these kinds of birds merely acquire a winter plumage the following year, or it may be a similar plumage for a year or two more, till the

bird, according to its genus, or species, arrives at sufficient maturity when the condition would render its assuming its breeding plumage a certainty. Why one genus or species of birds requires a longer time to arrive at maturity than another is a problem I leave to others more learned in such matters than I am to solve.

I stuffed these to me most interesting birds.

There are certainly no rules without exceptions, but I think when varieties occur or birds do not moult or change colour as I have attempted to describe, some unusual condition of the individual bird has occurred to occasion the irregularity which we may not be able yet to explain.

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#### SPOTTED REDSHANK AND OTHER WADERS IN NORFOLK.

In turning over my ill-assorted papers I have just found a letter from the late Mr. Fielding Harmer, whose name will be familiar to shore shooters and perhaps to many naturalists. It is dated Aylsham, June 10th, 1862, and as it has reference to this bird so rarely met with in England, I wish to quote what he had to say about it before it is too late for my little collection of scraps. He writes—"I killed a Spotted Redshank in the winter plumage last year, it was very tame, sitting up to its breast in water. I got my punt over the mud to it and shot it with a shoulder gun," but he does not give me the date. He adds, "I am not aware that any others than those I mentioned in the *Field* were observed this season, one I believe was shot in May last year, but I did not see the bird in the flesh, and from what I can learn it was seven years before this that one in summer plumage has been shot in Great Yarmouth." He adds, "I have used a punt gun in Yarmouth and elsewhere many years, and have had good opportunities of observing wildfowl and waders." He writes he was not aware of any more Spotted Redshanks

having been obtained or seen (excepting the two he shot), and where J. P. could have got his information from he is at a loss to discover. I find another letter from Mr. Harmer, dated August 1st, 1862, about shore birds. On my remarking Lubbock not mentioning the Pigmy Curlew as a Norfolk bird, he says "they are not uncommon in September some years at Breydon, but rare in red plumage. Godwits and Knots are common enough in May, both red and grey, some years more plentiful than others. In 1858 there were great numbers of red Knots on May 12th, but few Godwits; three years since there were numbers of Godwits, chiefly red, but few Knots, on 10th and 11th May; in fact I have noticed for some years about the 10th May is the time for these birds to arrive in numbers; they stay no time, being gone in a day sometimes." He also says he had not seen a Ruff or a Reeve here for seven years until three weeks since a friend of his was with him on the water at the time (a collector) and he shot it for him, and he adds, strange to say, it was a good plumage (meaning so late in the season). He adds he saw two Avocets on the mud in May, 1855, at which his gun missed fire, but he had seen none since, and he greatly regrets the decrease in the number of Crested Grebes on the Broad, generally within his time.

I dare say some who have read some of my writings will consider me a cruel exterminator of species, and judge me harshly, without understanding my drift. Now I print the extracts from Mr. Harmer's letters partly in my own defence, and I would refer my readers to what he says about Knots and Godwits (mind these Godwits are not the species that ever bred in England, which were the Black-tailed species only) passing about the 10th of May, and then only in some years remaining sometimes a day or two. Now I would ask any unprejudiced person if killing these birds at that season does the slightest harm to them as a species. Their breeding grounds must be spread over an enormous extent of country, and if you consider the numbers there are of them to cover it, of what possible consequence is it if a hundred or more were killed during the time they pass. No doubt in

those years when the greatest numbers do come they are merely one flock in comparison to the thousands passing elsewhere (than on that particular part of our coasts only) at the same season to their distant breeding grounds in the north of Europe. Because a number of old birds pass one year without being shot at, we have no certainty either they or their young would return the following autumn or ever after during their lives. If they were all killed, if Nature directed it so, others would follow where the species had appeared before, without any that came before being left to show them the way. Nature gives her own creatures instinct, and this leads them to where she requires them to be, and to wherever the localities will suit their requirements.

By all means protect breeding birds—old, young, and eggs. At any rate let the owners of the ground they are on have a method of preventing their being taken without their consent.

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#### RICHARDSON'S ARCTIC GULL.

During the last days of August, 1880, we walked from Holy Island to Bamborough, when we saw many of these birds flying along the coast backwards and forwards, and occasionally chasing the Terns as usual. None seemed to settle on the water, but it was amusing to see them in pursuit of the Terns, in fact it reminded me of hawking with trained hawks, as they seemed to act in concert, or of coursing a hare with a couple of greyhounds. Many times they hunted in couples, two singling out a Tern from a flock, probably the one which had the prize sought for; but I could not give an opinion whether the two Gulls acted in concert, one to help the other, or that they bullied the Tern each on his own account, but between the two the poor Tern had apparently no chance till it had given up the coveted morsel, when it was left alone.

Whilst on the subject of Gulls I may add our tame Lesser Black-backed Gulls amongst other food they find in the garden seem very fond of the apples as they fall ripe from the trees.

## WILD SWAN.

Shot at Prestwick Car, January 28th, 1848, already mentioned in my account of birds met with there.

On January 22nd, 1838, whilst at Hartley with Mr. Hancock, during a very long and severe storm, eight of these magnificent birds came over our heads flying north. When shot at they commenced to make their peculiar cry, probably in derision. They were all white birds.

January 15th, 1864.—Snowy day and severe frost, Ten came to Gosforth Lake from the north when we were skating, and after flying round over the tame Swans several times they went on. I think they intended settling, but were frightened away by our being there.

On the 11th January, 1871, also during a very severe frost, three Wild Swans came to the tame birds at Gosforth Lake and settled with them, part of the water having been kept open. They soon became quite reconciled, feeding with the tame birds, and after a few days they would actually allow you to go within twenty yards of them on the ice without flying. Some days after the keeper succeeded in catching them and pinioned them. One of them lived for several years. I believe it is still there (January, 1881). In 1875 a Wild Swan, which could fly well, remained until April 4th, as a companion to it. These Wild Swans got quite rusty-coloured heads in summer, probably the feathers are stained, as at that season they feed much amongst the roots of the bulrushes, I daresay eating the young and tender shoots and roots also. On the 18th April the pinioned Swan alone remained, the other having departed, as Nature taught it, to distant northern regions to breed.

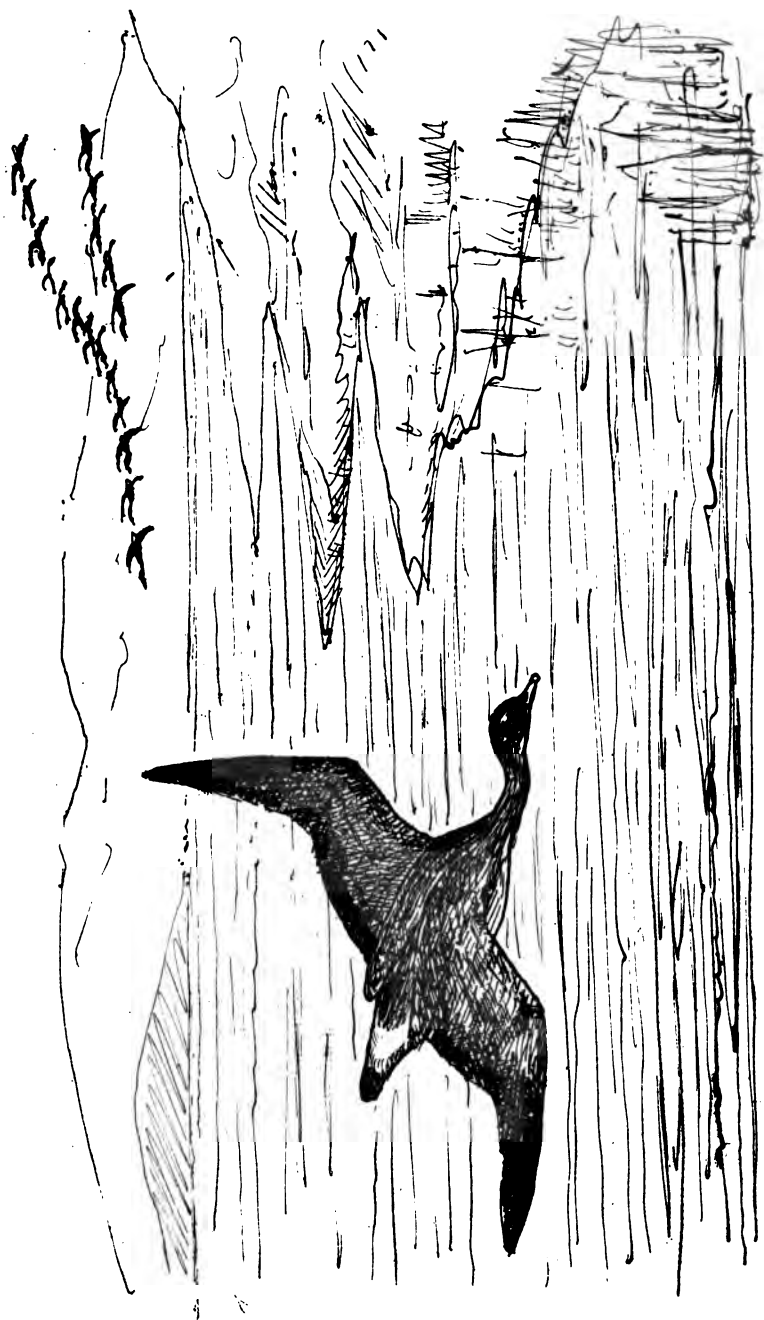
I do not know a prettier sight than seeing a flock of Wild Swans arrive at a piece of water on which they wish to settle. They generally fly round and round, coming each time nearer the water, and at such times they always seem to turn exactly at the

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same time, and being so large and so white, it is extremely interesting to watch them and observe the dark shadows on their plumage, caused by the light catching the different portions of it.

All the Wild Swans I have seen alive have been old birds and quite white. Probably the young birds keep by themselves, and often migrate in some other direction.

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#### GREYLAG, OR COMMON WILD GOOSE.

On the 28th April, 1855, Mr. R. Reay sent me this one from Prestwick Car. It is a bird of the preceding year, and has even at this late season most of the plumage it had at first acquired.

April 20 and 25, 1856.—One of these birds remained some days at Gosforth Lake; the grey edging to the wing was plainly seen when it rose and flew about. When put up it always flew round and settled again on the water. I did not see it after first week in May. Probably a wounded bird, as a Wild Goose in good condition on being disturbed seldom settles again within sight.

This fine bird now seems to be very seldom met with, indeed until 1840 I never saw one. The first I ever saw recently killed I bought in Leadenhall market, and I think I sent it to Mr. Hancock. Afterwards I saw a few more. In recent years some have been in the game shops, but it is not possible now to trace where these have been obtained, and it is of no use enquiring, as the probability is you will be misinformed, or you might be asked what business you have to ask. If the bird ever was common in England it is difficult to account for its having become so very much rarer than the other species, which still come to such places remaining suitable for them, but which certainly are few and far between, every year reducing their number, and consequently the number of the visitors.

### WHITE-FRONTED GOOSE.

This bird was shot at Chesters by Mr. Markham, 10th Feb., 1846, who sent it to me.

In my account of the birds at Prestwick Car I mentioned having heard of the White-fronted Goose having been killed there, but that I had not seen it killed. Mr. Lambert on reading my book wrote me a letter from Denham Court, dated 7th July, 1879, in which he writes:—"I remark what you say about the White-fronted Goose. I myself shot one at Berwick Hill, and have it stuffed here."

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### BERNACLE.

On the 30th October, 1855, Mr. Bowie sent me as a rarity a Bernacle Goose, which he had shot at Holy Island, and although the Brent is in some seasons very common the Bernacle is rarely met with there.

Wonders never cease. I always believed our different kinds of Wild Geese lived entirely on vegetables. Our tame Bernacles, though they often refused worms when put in their way, now in the month of March will eat them. I wonder if this has anything to do with the season of the year. I never saw a Brent Goose take a worm, but I almost think in autumn they take midges from the surface of the water. I have often seen them, with Wigeon and other ducks when they are feeding on the gnats and midges, swimming about with them, and apparently feeding on them. They evidently take something from the surface of the water, and unless they are taking midges I cannot fancy what they do take.

Tame Brent Geese and Bernacles like to eat pieces of grass when put into the water for them (seeing them eating thus, calls to one's mind at once the way they in their wild state pull up







the weed they feed on, a great portion of which often floats with the tide, and you can then see a flock scattered and swimming about and tugging at the mass to get pieces suitable for them to eat); they also, as well as Swans, eat quantities of willow leaves when blown off the trees into the water, and these Geese nibble the leaves of many plants in winter. I have seen them eat the leaves of *Polygonium Japonicum*, dockens, and various plants of the Cabbage tribe, and the Bernacles are fond in winter of London Pride, often cropping the leaves quite close to the ground.

In the first week of September, 1880, we saw a Brent Goose at Warham Slake. It was on the sands, and on being approached it flew along the shore and settled in the sea not far from the shore. Afterwards we saw it distinctly swimming, but it did not rise from the water, being at some little distance. It was unusually early. I do not think it possible for such a bird there to escape observation and capture during the time it should have moulted its quills, which would be in July; possibly if out of health it may not have moulted them at the ordinary season, but in such case I think the bird if it could not moult would pine and die.

Major Russell in his letters to me observes the difference in the quantities of young and old Brent Geese which come to the Essex coast in different years. Sometimes almost all that come are old birds, even two years in succession. He suggests the seasons when so few young birds come may be unproductive in consequence probably of the severity of the weather in the breeding season in the Arctic regions where they are in summer. It is a curious problem to solve and an interesting one. The reason may be as he suggests, or it may be the flocks of young birds keep much by themselves, and perhaps take a different course during migration; anyhow as a rule far more old birds are met with on the Northumberland coast than young birds of the year, which are so easily distinguished by their broadly-edged wing coverts. If his suggestion is the correct one, it shows the absurdity of our not getting the birds when we can, as the quantity we could under any circumstances get, would be a trifle

indeed in comparison to Nature's own method of preventing a species from becoming too numerous. One bad season, Nature's own method, doing more damage than all the guns in the world could do.

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#### ON WILD GEESE GENERALLY.

1848, April 11th.—Many large flocks at Prestwick Car.

1850, April 21st.—Large flocks still flying about Prestwick Car.

One year I find as early as July 16th I saw eight flying over, making a great noise. Very early in season, never saw them so early before; but the following year some returned to Prestwick Car about the same time.

1852, April 15th.—When fishing at Prestwick Car saw quantities of Wild Geese still there. Saw them at same season in 1858; and on March 19th, 1867, during a severe frost, during which there were three days skating at this late season, very large flocks of Geese, consisting of several hundreds, passed over, going north west.

One of the most interesting sights at Prestwick Car for a Naturalist used to be the Wild Geese. Many times, years ago before the place was drained, I have gone over night in order to see them in April come off at daybreak. You then saw a sight. I do not know in England where such could be now seen. The shallow and deeper water being a mile or two wide, there they could rest on it in safety during the night, which I think they always do. About daybreak you would hear one or two alarm notes, as if to awaken the flock, the majority I presume being still asleep. Almost immediately after this you heard a great noise, caused by their wings striking the water as they arose. So soon as you heard this on looking you could distinguish the mass rising from the water all in a heap apparently. Gradually

as they came on you saw them extending into a line, and rising as they came, and keeping up a continuous cackling and gabbing. By the time they reached the edge of the Car where you were concealed they had got probably a hundred yards high. They almost always came northwards. I think I am speaking within bounds when I say I have seen nearly a quarter of a mile of them sometimes almost all in one wavy line, constantly changing in shape, and often being broken up more or less. Thus they passed over, but before getting out of sight the mass broke up into smaller flocks, and took different directions to seek food during the day. They returned in the evenings, but the flocks then came in separately, some often after it was dark, but generally about twilight. I think probably all the separate flocks would leave their feeding grounds at the same time, and that the difference in the time of arrival was caused by the distance the flocks had to fly.

I have been taken on a horse and left on a wet grassy island at night, and have seen them come in, sometimes quite low and apparently near, but it is wonderful how wary they were, and how they sheered on seeing anything they have not been accustomed to see.

I would ask though we so rarely now see these birds in consequence of this haunt having been done away with, if it is supposed there are fewer of them as a species? And I would also ask what did the species suffer from the few being shot which it was possible under any circumstances to get.

On one occasion, in the month of April, I remember watching the Wild Geese early in the morning coming off Prestwick Car soon after daylight, at which time they always came away to feed in the large fields in the neighbourhood, and where, if not disturbed, they remained till dusk, when they returned to the Car to rest on the water for the night. Sometimes they came off very high, quite out of reach; at other times, if you were fortunate enough to be under them, you had a good chance to get one. Well, a bird was wounded, and we saw it would be got as it lagged sadly behind, and at length came to ground in

the middle of a very large bare pea fallow. We thought there would be little difficulty in finding it, however after looking for some time we were about to give up the search when we by mere accident saw it close to us squatted on the ground, which was certainly very rough, but without any vegetation. This showed us how easily you may pass a bird as big as a goose without seeing it; certainly the ashy-brown colour harmonized with the clots of clayey land. It was a Pink-footed Goose, the commonest Goose there at that season of the year.

I remember my brother, when we were staying at Ewart Park, one morning in winter shooting a Bean Goose on a rough pasture, which on seeing him must have squatted. It was a single bird, and seemed in high condition. I had gone in another direction to look for Wild Ducks in the Glen and the Till.

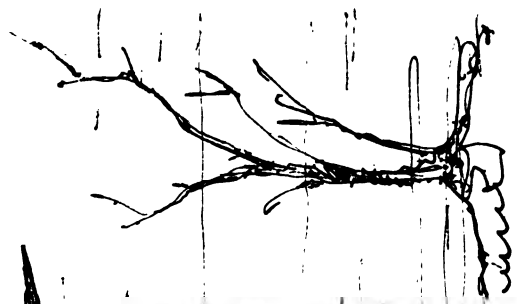
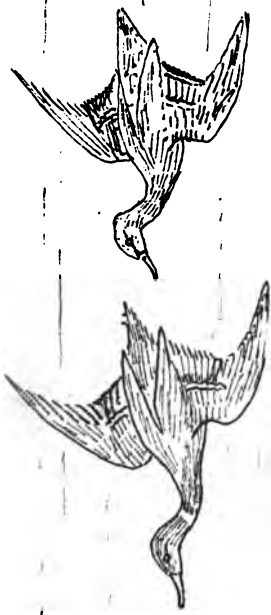
THE EGYPTIAN GOOSE I think is undoubtedly only met with in England as an escaped bird. The only time I ever met with any was on Dec. 31st, 1862, when four settled at a pond on the Town Moor, which were evidently tame birds. They remained until a man went for a gun and he shot one. They allowing him to get quite near before rising, I wonder he did not kill them all, as they allowed him to walk quite up to them before attempting to fly.

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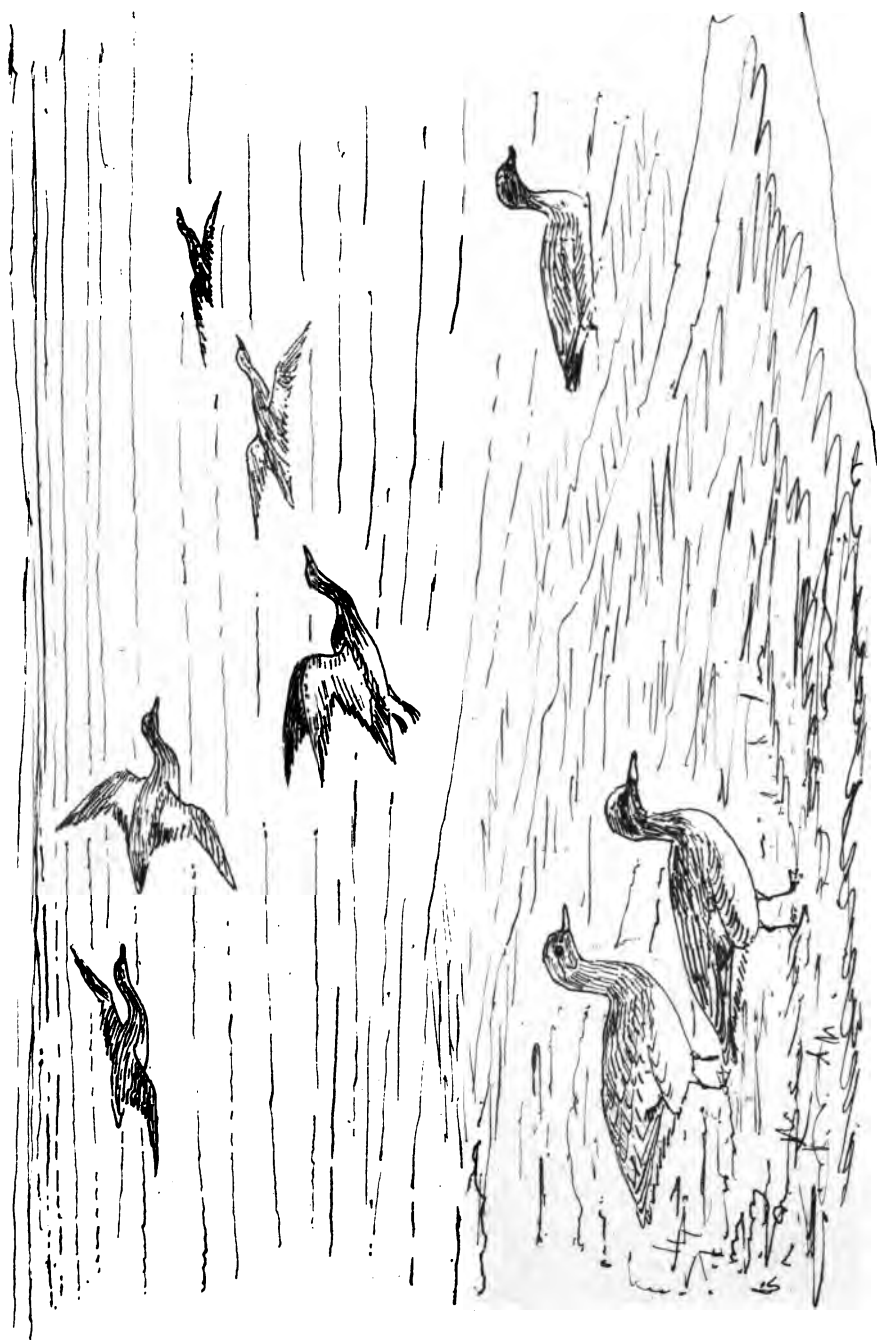
## WILD DUCKS.

### WILD DRAKE SHOT IN THE BURN.

I have observed many more common Wild Ducks in March during migration than remain here to breed. By the first week in May you could see the old drakes of the pairs which had remained to breed together in flocks sitting amongst the dead reed stems. Soon after that time the drakes seem to change their plumage to that of the ducks, and during moulting time they rarely show themselves, remaining amongst the dense herbage, then increasing daily in density, till they are again able to fly.











On the 4th Jany., 1868, just previous to getting his commission and starting for India, my son killed two couple of Wild Ducks and a Snipe from the Ouseburn on a frosty and snowy morning.

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### WIGEON.

1 and 2.—Drakes, Prestwick Car, in full plumage, shot in winter.

3.—Drake, in summer plumage, shot in Sept., 1856, which had returned from breeding in its summer plumage, which is all dark except the white wing coverts, a certain sign of maturity in this species. I have not seen any other like this bird shot in this district.

In the Wigeon the beak is formed very like that of the Geese, evidently to enable it to crop the grass and other vegetable substances on which like them it feeds. I have observed the tame Wigeon are very fond of feeding on the willow leaves which drop from the trees on to the surface of the water in autumn.

This winter (1880) I saw at a poulterer's shop a drake Wigeon in full plumage, except that the newly moulted wing coverts instead of being all white were edged with pale brown, somewhat resembling the faded wing coverts of the immature drakes of the previous year as often seen in spring when the bird had otherwise acquired its full plumage. No doubt that showed the bird had moulted, to this extent, to a plumage similar to that cast, probably in consequence of the bird still retaining a trifling part of its immature condition at the time of moulting, but these wing coverts would most likely, had the bird lived a week or two longer, either have lost their pale brown edges or they would have become entirely white, by change of colour in the feathers themselves, by the edges wearing off, or by fading or other ways than by moulting.

## T E A L.

Two drakes in full plumage, killed at one shot from the burn, in January, 1854, during a severe frost.

While at Prestwick Car on the 13th May, 1839, as we were walking among the heather we were delighted to see a Teal rise from its nest, which we found contained eleven eggs; it was placed at the north-east side of the Car, about one hundred yards from the water. The bottom of it upon which the eggs were laid was the bare peaty soil, but all round them was the down from the bird, which was of a brownish-grey colour, and intermixed with it were a few short pieces of heather. The nest was in a hole just large enough to admit it, the edges being on a level with the surface of the ground.

On the 27th May, 1867, we found young Teal just hatched at Sweethope Lake. We found them in consequence of the great anxiety of the old duck.

July 4th, 1878.—We got a young drake Teal from Fallowlees. The primaries were just showing the feather part beyond the bloody part. 24th July primaries nearly full grown. Caught it to cut its wing this day. It showed one speckled feather in greater secondary coverts and green on the secondaries, quite bright in colour as in an old bird. It makes a low noise, somewhat resembling that of a Snipe.

On the 14th August, 1878, fell in with a flock of Teal at Holy Island. Knocked down four, one of these was only pinioned, and my youngest daughter caught it and suggested having it sent home to place beside the one she already had. We therefore on arriving at the house took off the wing end, and put the bird in a hamper in the dark with water and food. It soon began to eat, and after keeping it a few days it was despatched home, where it arrived all right. It was also a drake, and in October began to show some of its full plumage. Teal seem

difficult to keep alive during severe weather at an enclosed pond, the water getting frozen in spite of precautions, and it would appear if they cannot get water they very quickly die. Both our birds died before fully acquiring their full plumage during long and severe frost and snow.

Young Teal drakes and ducks can be distinguished by their plumage as soon as they are feathered. About the middle of September, although the individuals of each sex vary much, the drakes are easily distinguishable, they have about four green secondaries, the ducks having only about two of that colour, the drakes are also beginning to assume their freckled plumage on the back and sides near the tail. There would almost appear to be two well marked varieties with the intervening graduations, irrespective of sex, the one much darker than the other; the one being rich buff, and the indentations on the back feathers being rich in colour, and the breast and belly all over small round spots; the other variety being white on the breast, and paler all over the light coloured parts of the feathers. Some birds are nearly as brightly-coloured as common Wild Ducks, some others (ducks) are dingy-coloured, and much spotted with larger oblong marks on their underparts. The wing coverts of the drakes are also differently marked, being without margins to the feathers, while those of the ducks are not so uniform, and are generally slightly edged with brown. The feet also differ in colour in individuals, sometimes being greyish, and at other times tinged with brown.

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#### GADWALL.

Female. I shot this rare bird in this county, at Prestwick Car, on the 28th November, 1850, whilst flight shooting with Mr. Lambert during a sharp frost.

Male and female, Leadenhall market, March or April, 1841. No doubt foreigners.

In a letter I have from the late Mr. Fielding Harmer, dated 1st August, 1862, he writes—"I have never seen the Gadwall, either flying or swimming, in Norfolk, at least in Yarmouth. A male was killed on Breydon the winter before last.

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#### PINTAIL.

1.—Male. Farne Islands, March 11th, 1840. Shot by Grace Darling's brother.

The Farne Islands seem a very unlikely place for this bird. No doubt it was merely passing on its spring migration.

2 and 3.—Male and female. Leadenhall market, spring of 1841.

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#### SHOVELLER.

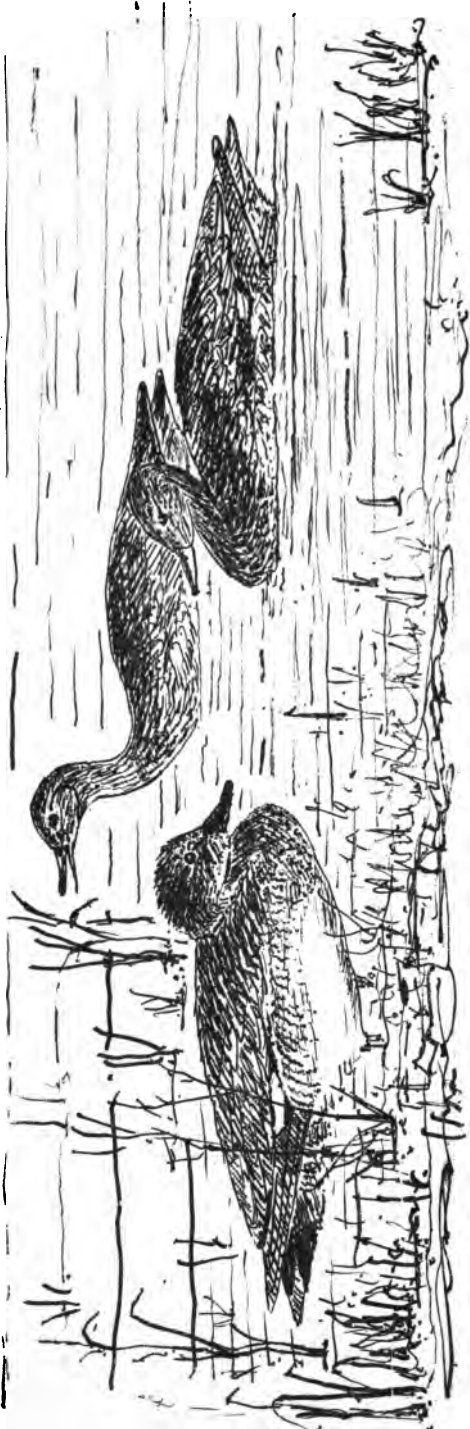
1 and 2.—Mature male, killed in March; female, young of the year, October 27th, 1846.

3 and 4.—Male and female. Shot at Prestwick Car by the late Mr. S. G. Barrett. Male, October 2nd, 1852; female, 26th July, same year.

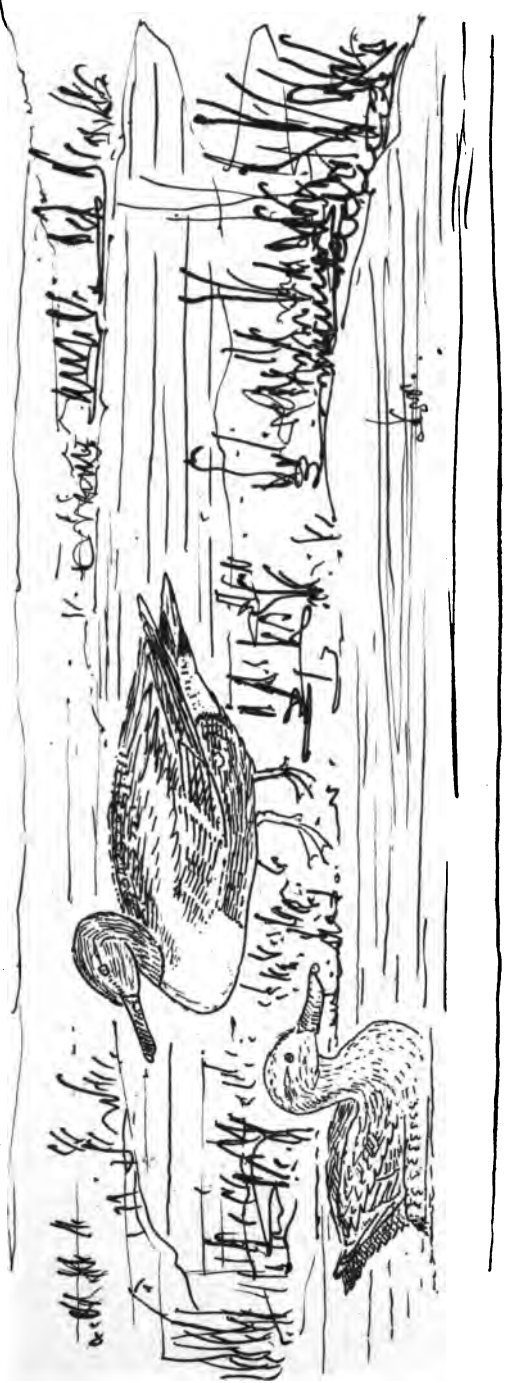
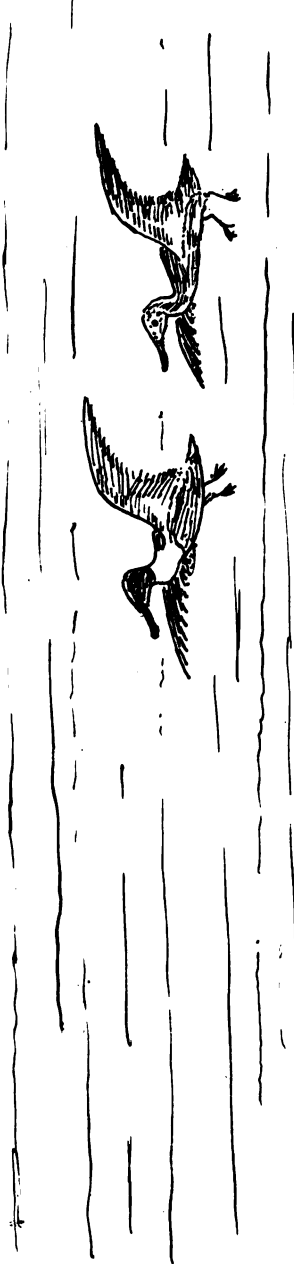
The earliest notices of them I have in spring is 13th March, in 1859; the 21st March, 1858; and in other years about the last week of the month; and those not intending to remain seem to leave in about a fortnight, as I have sometimes observed them in flocks till the middle of April.

We found a nest with seven eggs, 16th April, 1856, and I also find I have seen a young bird away from any breeding place, July 23rd, 1856, which had the blue wing.

About a dozen came to Gosforth Lake in March, 1856. The lake at that time was a reedy and rushy marsh, the water having











been let off for several years. There were more drakes than ducks, the drakes when flying uttering a peculiar noise resembling "*thudder*" often repeated. About the middle of April they had paired, but the pairs sometimes got separated when flying and got flocked, and often a duck would fly with two or three drakes. At that time pairs often sat at the edge of the water, and appeared tame, many times within shooting distance, and if put up they frequently flew round amongst the trees and came near. By the second week in May no ducks seen, but the drakes often fly together or swim near the edge singly, probably near where the ducks have their nests.

The young of the year of this species is sometimes very late in commencing to get its full plumage. A drake killed at Prestwick Car one evening in December, then retaining its immature plumage, only having one or two dark-coloured feathers on the head even then; but it seems to differ from the Wigeon in this respect, the new feathers coming the colour of the adult bird. The Shoveller also has the blue wing of the old bird from the first, whilst the white on the wing of the Wigeon seems to be the last mark of maturity he gets.

On the 20th August, 1879, I shot a young Shoveller at Holy Island, evidently I think bred not far off. I believe a pair of old birds come in spring to the Lough to breed, but they are regular wanderers, and so soon as the young can fly well they leave their breeding place with the old birds, migrating perhaps into Africa for the winter.

In these birds which I have examined killed in March and April I have found water insects such as what we commonly call boat-flies, which seem to constitute their food, and as they are only found in fresh water, it would be impossible for the birds to exist here in severe weather, and in consequence the species as a rule all spend the winter much further south.

**GARGANEY.**

In the former part of my scraps about birds I have already mentioned this lovely little duck. My son informs me it remains in Burmah till late in the spring, he having met with it till March 5th, when the drakes were only at that time acquiring their chaste and elegant plumage, the elongated scapulars only then growing, and not being of their full length; he sent me the feathers of one in this condition. In confinement the old drakes appear to acquire this plumage at the same time, and then begin to utter their curious note, from which no doubt they obtained the name of Cricket Teal. This noise resembles that made by a small child's rattle, but the jarring noise only continued for about three or four notes till it stops to begin again. My son writes that by April 12 all Teal and Garganeys had left the country.

On January 22nd, at which time they were numerous, my son killed many. None of the drakes were distinguishable from the ducks except, as he says, by their slaty blue wing. Common Teal and Pintail were also to be had.

This bird seems to linger on the road to its breeding ground longer than many other kinds of wildfowl, evidently enjoying mild weather only. Probably its belt of breeding ground commences where that of the Teal almost leaves off. Perhaps it migrates much further south in winter, both in Europe and in Asia, than the Teal. It seems to have been found breeding in the south of England, but its western boundary, except as a straggler, appears to be further eastward.

Mr. Fielding Harmer wrote me in August, 1862, that "Garganeys were far from common in Norfolk. Now and then a pair are procured. He had not seen one for three years as near as he could recollect. They were generally seen in April or March." Showing their late migration from more southern climes, where they spend the winter both in Asia, Southern Europe, and Africa.





A friend of mine, who saw many of these birds killed in the Mediterranean shores in winter, remarked that none of the drakes were in full plumage. From this and from what my son says, and from the state of the elongated feathers he sent me from drakes killed in March, it would appear the drakes of this species are very late in acquiring what may be considered their breeding plumage.

I have observed in domesticated birds both of this species and its near ally the Pintail the drakes were very late in acquiring their full plumage, but I considered perhaps this was merely caused by domestication. If it is usual for the drakes to be so very late in acquiring their full plumage, it points out the remarkably short time they keep it, that is only from the end of March till June, and it would be only during that short interval a drake in perfect plumage could be obtained.

I think many drakes, for instance those of the Teal, Pintail, and Garganey, seldom if ever make use of their distinguishing note till they have acquired their full plumage. They seem silent birds at all times except in spring.

Do the old drakes of the Teal, Pintail, Gadwall, and Shoveller retain the black beak in autumn? I almost think not. I have a mature drake Shoveller, shot in October, which had in a great measure regained his coloured plumage, excepting the ornamental scapular and tertials, with a black beak; but this may have been acquired again in consequence of its having again so far assumed his full plumage, and in consequence of the bird's forward condition at the time.

In a letter from Burmah, dated 20th December, 1880, my son describes a day's Duck shooting the week previous, when they got Teal, Garganeys, Whistling Teal, Goose Teal, Wigeon, and Pintail, and in addition they had Snipe, Painted Snipe, Stilt Plovers, Golden Plovers, and Greenshanks. The Wigeon were the first of the kind he had met with. He says he shot a Pintail out of a flock of some thousands of Garganeys. He says on the ground where they were there were thousands and thousands

of Teal, but the ground was a large swamp of about the size of Fenham Slake, covered with water, varying in depth from a few inches to five feet, the whole surface except small patches covered with a kind of floating grass, never growing more than a few inches above the surface of the water, so that there was absolutely no cover. They however succeeded in breaking up and dividing the enormous flocks into smaller quantities, and succeeded by keeping the birds disturbed and sitting up to their necks in the water in bringing down a quantity as they wheeled about in the air over their heads, but they could only get those which fell dead, and these were principally Garganeys.

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#### SHELDRAKE.

Male, Holy Island, December 21st, 1844.

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#### EIDER DUCK.

Mature male, shot at Holy Island, 8th October, 1851, during a squally day. I shot another drake and a young duck the same day. At this time the old birds have nearly regained their fine plumage.

On the 22nd March, 1880, I received an Eider drake alive, which had been caught by the fishermen at Holy Island. I was at first sorry to get this bird, as I feared it would be irreclaimably wild, and would sulk and die. However as it came we had to do the best with it we could, and contrary to my expectations it became tame all at once. We put it into a small pond surrounded with a wire fence and left it alone, so soon as turned out giving it some crushed mussels; next morning the mussels had disappeared. Immediately on turning it out it began to

drink, which I considered a favourable sign, and immediately afterwards it gave itself a complete washing, another good sign. Although it tried to get its liberty by constantly walking inside the wire and trying to get through it did so quietly, and so soon as tired went and sat under a holly. It never tried to fly. After the second day it came and ate pieces of fish when thrown to it, and it also ate barley which was put in the water. It is a most beautiful bird, and anything but clumsy on land, walking well. The sender cautioned me that it could fly, and desired me to pinion it, but as I was uncertain whether it would live, I did not wish to give it this pain and only cut its wing, thinking that before the next autumn, when it would moult its quills, it would be time enough to pinion it if alive, and besides the injury to its wing by pinioning it would have rendered it less likely to live. It ate worms readily. It was very curious the way it was caught. The fishermen were hauling their long lines when a flock of Eiders dived, this bird was caught by the hook passing over its neck, and making a loop in which its neck was caught without injuring the bird, and it was drawn to the boat's edge. After a few days I gave the bird to my neighbour Capt. Noble, who has a good collection of wildfowl domesticated, and has a much better place than I have for keeping them, and amongst these it was quite an ornament. It seemed to thrive well in the fresh water. It turned black in the summer as the wild birds do, but in that state it died in autumn, probably requiring some kind of food it could not find to enable it to moult again to its full and lovely plumage. It was truly astonishing how tame it became, and I was quite glad to see it live so long as it did, which was about six months.

On the 30th August, 1877, when staying at Holy Island, we counted upwards of one hundred and twenty Eiders in one flock off the north-east rocks. At this season it is not easy to distinguish the old drakes at a distance, and it is only when in a particular position, as they sit on the water, that they shew any white. I daresay all in the neighbourhood had assembled together for the time.

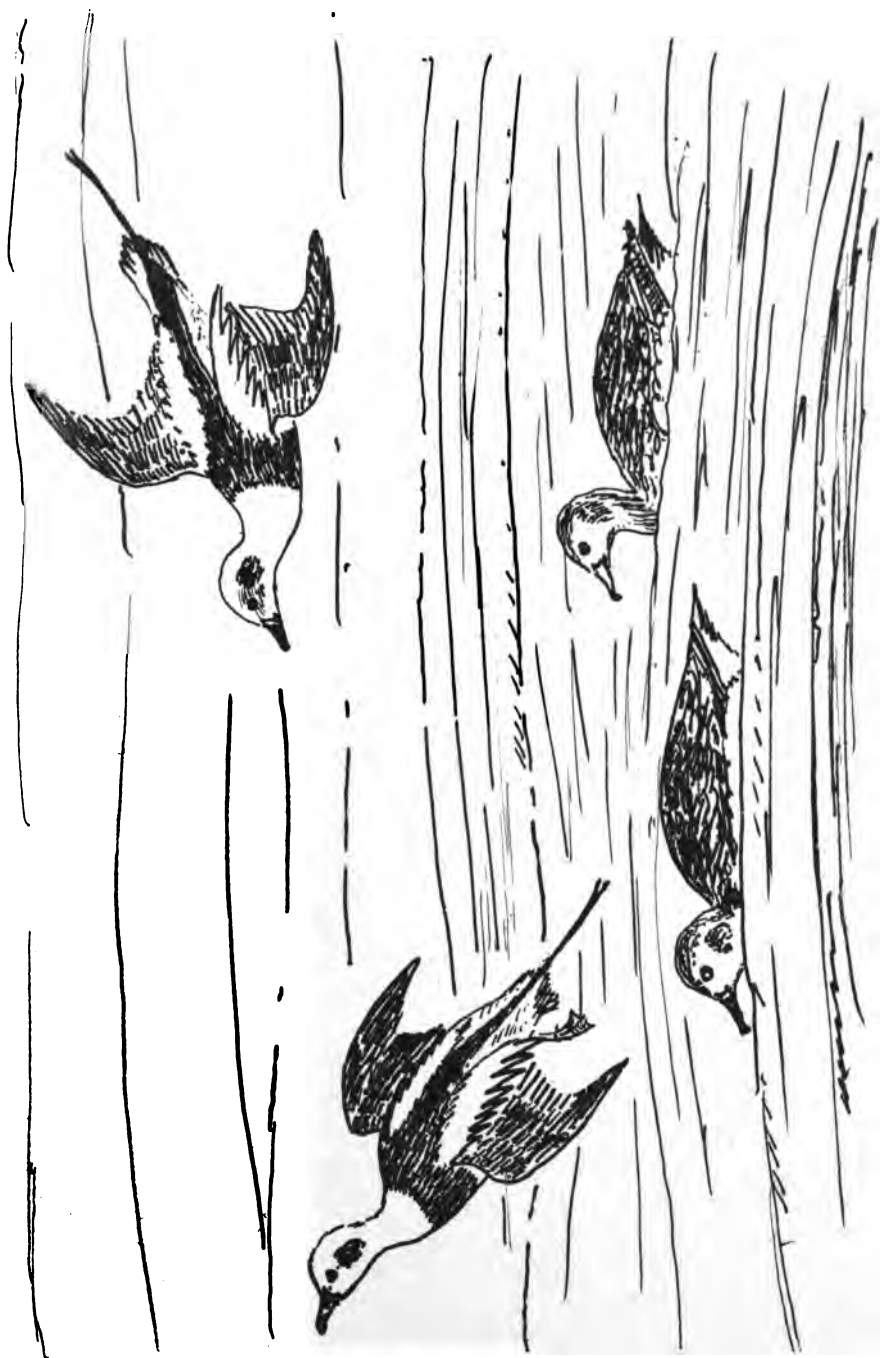


I have seen Eiders when shot from the shore, which fall wounded, just inside the broken water, immediately try to get back through the very high waves, instinct having apparently taught this bird that its safety consists in keeping out at sea, however stormy it may be. Late in summer they are very partial to coming on to the rocks at low tide, particularly early in the mornings, where they are not much disturbed, but they generally are quite at the water edge, and wide enough awake to take care of themselves, always swimming off so soon as danger appears. It is pretty to see the old duck take her young away out of danger in this manner. I have been surprised at these birds amongst broken water, even large waves. On one occasion particularly, when we came upon a flock inside the breakers, which we crept near to, just to see what they would do, they never attempted to fly, but swam right against the waves, diving when one broke close to them, and although the waves seemed too powerful for them and kept them under water for some time, turning them over, still they made way against them, and at last got through them. Why did they not fly and save themselves all this knocking about?

I have seen several Eiders at one time entangled and drowned by getting into the salmon nets there.

Oct. 16th, 1888.—Mr. Selby says Eider drakes are four years in getting their full plumage. Is this not a mistake? I think the birds he takes to be young and has frequently seen about this time of the year have been old birds in the plumage they all acquire after the breeding season, which is almost black. Are Eider drakes except those in full plumage ever seen in May? I rather think the drakes acquire their full plumage the autumn of the year after they were hatched at the latest.

June 25th, 1840.—I examined a drake Eider shot at the Farne Islands. The scapulars, the buff part of the breast, neck, and head, are all beginning to be mixed with black feathers, which are just beginning to come. All old drakes seem to get this dark mixture in their plumage at this time of the year, and which they do not loose till about the end of October, when they are again in full plumage.





The Eider has a wide range of breeding ground, according to Sabine's account being common in Baffin's Bay and Davis' Straits, but feeding at sea, it was not found after entering the Polar Sea, on account of their being nothing but fresh water unfrozen, whilst the King Duck was common on the North Georgian Islands, breeding near fresh water.

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### LONG-TAILED DUCK.

1.—Male, Holy Island, March 14th, 1840.

2.—Female, about same time.

April 24th, 1840.—I find I had young males, one of which was changing its young scapulars, those coming being white and black, broadly edged with brown. Some of the white feathers were apparently changing colour to the summer plumage as they grew, but it seems singular that those feathers which in so short a time would be the summer feathers were so late as this coming white, and also that some of the feathers should be coming quite small, and yet black edged with brown, and far brighter in colour than they ever are when in the perfect plumage bird, on account of their fading as they grow large, but this I have observed in several kinds of birds.

These birds, apparently young of the preceding year, would appear to be in breeding condition, as the feathers coming are those of the breeding birds. It has yet to be discovered whether birds of the preceding year do breed the following summer or not. These birds may be a year older, and acquiring their full plumage, which might be completed before June, the time when these birds breed in the northern region.

The fishermen hereabouts always call these birds Jacky Forsters.

## SCAUP DUCK.

Male, Holy Island, Dec. 29th, 1847.

This duck is most uncertain in the number which come to us, in some years being very common, and in others hardly one is seen, and this uncertainty does not seem to always depend on the weather, as in some severe seasons only very few come.

The winter of 1887-8 was a great year for Scaups on this coast. On the 22nd January, when with Mr. Hancock, we saw a great quantity at St. Mary's Island. The old drakes seemed to keep in small flocks by themselves, perhaps three or four together. The young birds appeared to be in large flocks. I had two winged birds sent to me alive; they appeared very tame considering, as they ate bread and oats which we gave them. The young drakes were getting their green heads and their light freckled backs. That year they were so plentiful some were in every small bay where there was smooth water.

I observed on February 20th, 1840, many Scaup Ducks had not acquired their full plumage. About a dozen I saw at this date were acquiring lighter-coloured feathers on their backs, and were getting freckled feathers amongst the light brown feathers on their flanks, probably young of preceding year, and I think they would not acquire their full plumage till they had completed their moult in autumn.

I have seen them in spring crammed with *Tellina zonata*, for which I think they dive and take them out of the wet sand.

They are usually called Coveys, and sometimes the males are called Blue-nebbed Drakes by the fishermen. They are very hardy birds, and although one may be ever so severely wounded it will keep in the sea as long as it is alive.

There can be no doubt but that some kinds of birds seem to be becoming more scarce on our coasts than they appeared formerly. Perhaps, however, we take exceptionally plentiful years

for average years. No doubt almost every place on our coasts within the last thirty or forty years has become more populous, and the extra traffic by boats has more or less disturbed the places formerly quiet and where the birds used to congregate. In consequence they are to some extent driven away, but still I believe the numbers there are of the individual species are as great as ever they were. If we consider the extent of country over which species are distributed, it does not seem likely any great injury can be done to them, even were all killed at the places we have been accustomed to find them at. A season like the present brings up and shows the number; the hard weather obliging the birds to come to places where in ordinary seasons they would be driven from to other places where they could find not only food but shelter from their persecutors. There can be no question that more wild fowl were to be seen on Fenham Slakes forty or fifty years since than there are now in ordinary seasons. At that time there were no railways. I can well remember going on the top of the coach to Belford, and thence finding my way to Cornet's public house at Fenham, and the night adventures from it to attack the Wigeon. It used to be cold work and very uncertain. Some nights not a bird would fly in the right direction. The method used to be to go at new and full moon in winter, at which time the tides suited. When the tide ebbed the gunners followed it with a spade and a wisp of straw. A hole was dug in the mud and the water baled out; the straw was to lie down on on your back, and then wait till the birds came from the water on to the mud, on which grew the green weed on which the Wigeon feed. But anyone can fancy lying on a cold night, and when no birds would fly it was a kind of sport requiring more patience than the generality of the present race of gunners would have, and yet there was a considerable amount of fascination about it which I daresay cost many their lives.

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## POCHARD.

1.—August 18th, 1844.

I also got one at the Lough, Holy Island, Aug., 1877.

These are old drakes, and are recovering their full plumage, but show none of the richer colours yet. From their being here so early it is probable they may occasionally breed not very far off, but it is quite evident if they do that the young leave so soon as ever they are able to fly well, as the young birds in their first plumage are seldom met with. I never saw one dead or alive in the neighbourhood.

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## WHITE-EYED POUCHARD.

*Male and Female.*

Leadenhall Market.

Female, December, 1841.

Male, April, 1842.

It seems extremely doubtful whether this bird was ever killed in the north of England, and perhaps only much less frequently in the south than is generally supposed.

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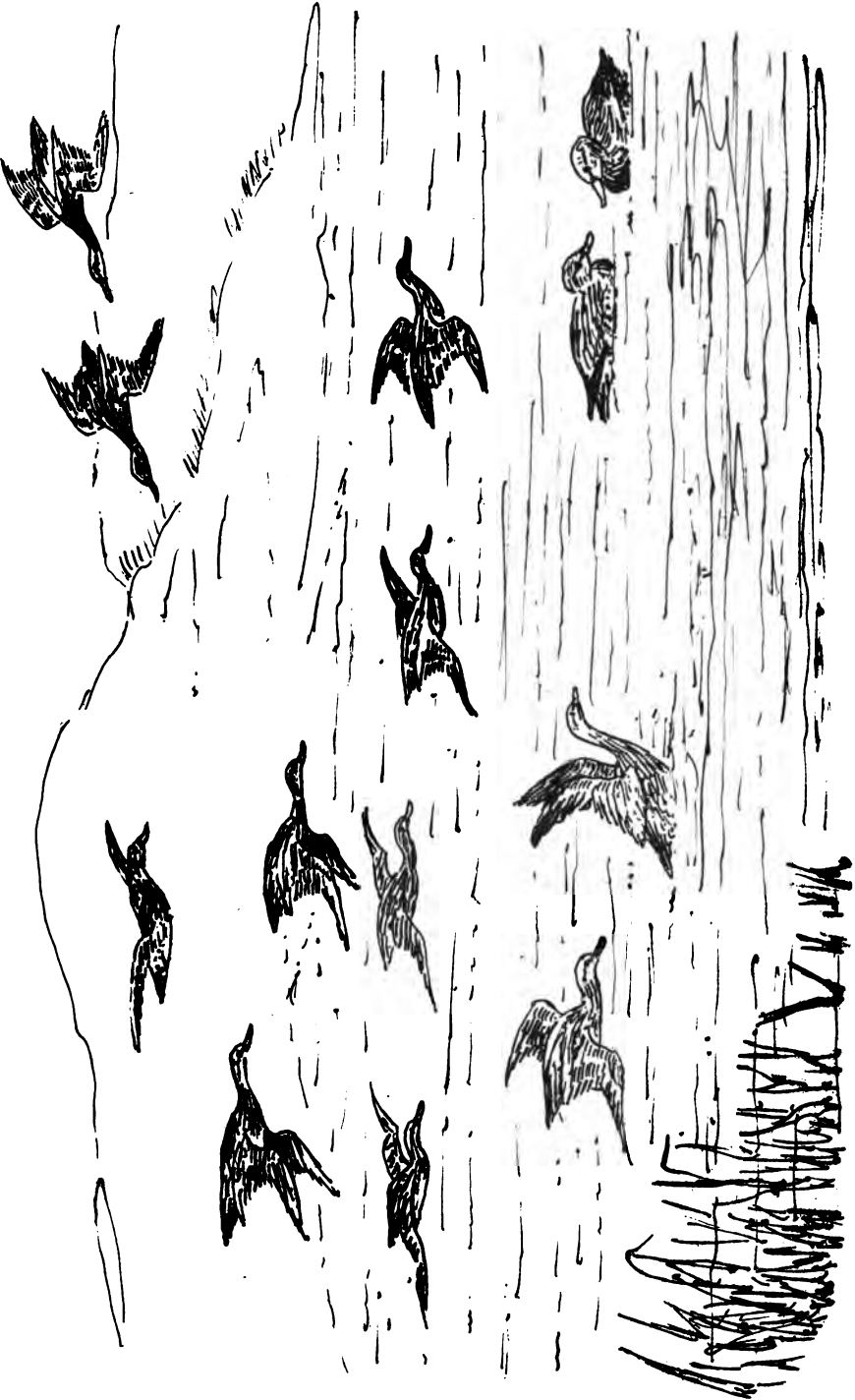
## TUFTED DUCK.

1844, April 22.—Old drake shot from the Tyne at Haltwhistle.

1850, Jan. 22.—Shot an old drake in full plumage in the Aln when shooting from Broome Park during deep snow.

1856, April 25.—Tufted Ducks still at Gosforth Lake.

1858, April 6.—Several at Gosforth.







مجلس  
تلاوة  
قرآن  
مبارک





1858, April 26.—Still at Gosforth Lake every year till about this time.

1866, Aug. 11.—Two at Gosforth Lake.

1870, April 15.—At Gosforth Lake.

Though some years ago Tufted Ducks bred at a pond at Wallington two years in succession, and I am certain they were not disturbed there, they left so soon as able to fly, and none have been seen since, showing how uncertain some kinds of birds are in returning to the places they have been bred at.

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#### VELVET DUCK.

1.—Male, Holy Island, February, 1888.

Young birds occasionally cast up in winter, but mature birds are seldom procured on this coast. This is the only one I have seen hereabouts recently killed.

#### SCOTER.

1851, Sept. 18.—A drake shot in the Tyne much worn in appearance, probably a bird of former year.

1852, Feb. 1.—Quantities of Scoters in bays at Holy Island. Fishermen said a cargo of grain had been lost, and that they were feeding on it. Is this likely? They rarely seem to feed so near the shore. I am not aware whether Scoters will eat barley, but if Eiders and Scaups will I do not see why Scoters should not also.

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#### GOLDEN EYE.

On March 2nd, 1849, I shot an old duck at Prestwick Car, and on the 10th April I also shot an old drake when watching Geese early in the morning. On the 18th April, 1850, I saw

several old Golden Eyes at Crag Lough, and on March 24th, 1856, I saw five drake Golden Eyes in full plumage at Gosforth Lake. These birds seen in spring are mature, and are evidently migrating to their breeding grounds in Norway and other northern regions.

On the 19th October, some years since, the late Sir Walter Trevelyan wrote—"My dear Charles, I send you a duck which was shot two days ago on the Sawmill pond, and which I have not succeeded in identifying with any in Bewick. I shall be glad to know what your superior ornithological acumen makes of it. Can it be a young castaneous duck of the edition 1826? In haste to save the carrier. Yours very truly, W. C. TREVELYAN."

The bird was a female Golden Eye in its first plumage, that of the supposed Morillon.

Now this is just the kind of letter and bird which have led to so many mistakes as to birds recorded as rare species having occurred in this country. The fact is, I fear, if a great number of the recorded rare species could be traced to the individual birds killed, a deplorable discrepancy would appear in those which actually flew to our country and those recorded as having done so and been obtained.

Three of the species so recorded as having been obtained, erroneously I think, are the Hooded Merganser, the Buff-headed Duck of America, and the American Golden Eye, which seems to be found commonly in summer in Iceland, and which Audubon seems in error to have considered the same species as the Common Golden Eye, which also appears to be found in America as well as in Europe. That the latter species should not migrate to us from Iceland is singular, but not more so than as respects the Harlequin Duck, about which species also there is great doubt as to its ever having been killed in Britain, notwithstanding though Yarrell himself says he bought two young females in Leadenhall market in the winter of 1880. I think these were simply immature Longtails, and he evidently considered the Longtails rare birds, which they may be, and probably are on

the southern coasts, but which are at times plentiful on our more northern coast in winter and sometimes far into spring. It almost appears possible the Harlequin Ducks said to have been procured in more northern-eastern Europe may have been the true Bimaculated Duck, but which singularly enough seldom if ever appears to migrate far southward even in winter.

There is one thing strikes me as singular, which is that in two species so nearly allied as the Common Golden Eye of both continents and the Golden Eye also of America, and which is found in Iceland but not in Europe, should have their nests in such different situations, the former seeming to choose holes in trees to breed in, and as the latter breeds in Iceland where there are none, it must make use of a different situation for its nest. Probably the latter breeds much further north always, and as there will be no trees of sufficient size necessity compels it to breed on the ground like other species of ducks, but this again shows that two species so nearly allied as these are in the distribution of the colour of the females cannot be accounted for as a reason for their protection during the time they are engaged with their eggs, the one kind sitting in a hole in a tree and in the dark and the other not doing so.

Respecting the Buffel-head ! What was called the Morillon (being like the dun diver state of the Goosander to the Golden Eye) seems to have been the cause of much confusion, and particularly the young female of the year, which is comparatively very small. Now the probability is if the Buffel-head really ever occurred here it would be in the immature state of plumage, and if a female a very little bird, much smaller than the smallest Common Golden Eye, but the confusion has I think entirely arisen from the difference in size of the birds obtained, and which was sexual only, and which were only Common Golden Eyes, and the skin of an American bird in full plumage having been set up to represent an only supposed British bird, has been passed off as a British-killed specimen.

If we go on increasing the British list in this manner, in time perhaps the birds of the world will be the birds of England, as

it appears every new writer, to be considered a naturalist, will be bound to increase the already too much swollen list.

Now as to the Hooded Merganser, has it ever occurred in Britain? I think not, and I give the reasons why. Bewick's figure of the drake of the Red-breasted Merganser has a drooping crest. This is evidently a mistake. Probably the bird the drawing was made from had the crest in the way Nature considered it should be, but the artist took the liberty of considering that the feathers had got twisted, and would not lie as he imagined they should do. Well this was a mistake, and might have been overlooked, but lo and behold in Yarrell's book, though the drawing is not a copy of Bewick's in other ways, he also figures the male with a drooping crest. Now this shows that not only in writing but also in drawing, mistakes once made are sometimes copied and continued, giving a totally wrong idea of the reality. Now I can excuse anyone on getting hold of a freshly-killed drake Merganser, and noticing its crest, being quite unable to recognise the bird from either Bewick or Yarrell's plates so far as the head is concerned. This bird when fresh killed is simply lovely, and the crest, or as it might be called a hood, is a wonderful arrangement of feathers, forming, when the bird chooses, a kind of double crest, one half of the feathers standing straight out, almost separately, and the other portion also standing straight out further backwards, and forming a double crest of long straight silky feathers. Why of the four species of Mergansers the hooded species should be only found on the American continent has yet to be found out, whilst the other species seem to be found in Europe as well, and the Smew and Goosander appear to be found in Asia also.

When writing on this subject of doubtful British birds I saw in the *Times* recently some one wrote, under the head "*Rara Avis*," to say a *Larus atricilla*, an American Gull, had been shot in England. Mr. Howard Saunders afterwards questioned its being the bird unless it corresponded with a bird with a ticket on it in the British Museum, part of the Montagu collection there. The editor of the *Times* was kind enough to insert the

following note which I sent him, as a correspondent, "Ornithological Dictionary" (1881), he finds as follows:—"In the month of Aug., 1774, we saw five of them together feeding in a pool upon the shingly flats near Winchelsea; two were black on the head, the others were mottled all over with brown;" then, again, "We also saw two others near Hastings, in Sussex." "Our correspondent adds that, as it does not appear one of the five was obtained, he would suggest the probability of the skin referred to being an American one and that mistakes had occurred throughout, and from the time of the year (August) that the five birds seen were a pair of old Black-headed Gulls with their brood of young, hatched not very far away, and that it may turn out the *rara avis* is of the same kind, assuming its breeding plumage."

Now in Yarrell's book he adds "one of them was shot, but although the remaining four continued to resort to the same place for some time, the old ones were too shy to be procured." "They may be easily known from the Black-headed Gull, even when flying, the flight is different, the birds appear much larger and the tail shorter in proportion."

Mr. Newton, in his reprint of "Montagu's Dictionary," copies what Yarrell says about one having been shot. Now a question arises, is the one which is said to have been the one shot, a young bird and dark-coloured. If not, it cannot be the bird *said to have been shot*, which was mentioned as one of the young birds only. If one of these birds really was shot why is the circumstance omitted in the previous edition of Montagu's work. Mr. Newton adds the bird may be the Blackheaded Gull only.

Now, as I have said previously, before we take for granted the correctness of what we find written, we must weigh the probabilities. I question much Montagu himself venturing the latter part of the description about the difference in flight and appearance of the tail. Such remarks are easily added to make a pretty story, but even if the young bird in the collection referred to is an immature *Larus atricilla*, I should not believe it to be one of



the birds referred to as having been seen, as nothing would make me believe it possible for two mature birds and three young hatched in America, to appear in this country in August, and no others having occurred since. It is presumed these five birds together crossed the Atlantic? It is a satisfaction to see the original writer of the notice writes again in the *Times* of the 24th March, 1881, to say the bird was a Black-headed Gull in an unusually brilliant state of plumage, which perhaps means the state of plumage all mature birds are in at the same season.

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#### RED-BREASTED MERGANSER.

Hartley, 25th January, 1888. Male.

Mr. Edmund Crawshay sent me the two drakes in the spring, which were set up by Mr. Hancock some years since, from Fenham Flats.

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#### SMEW.

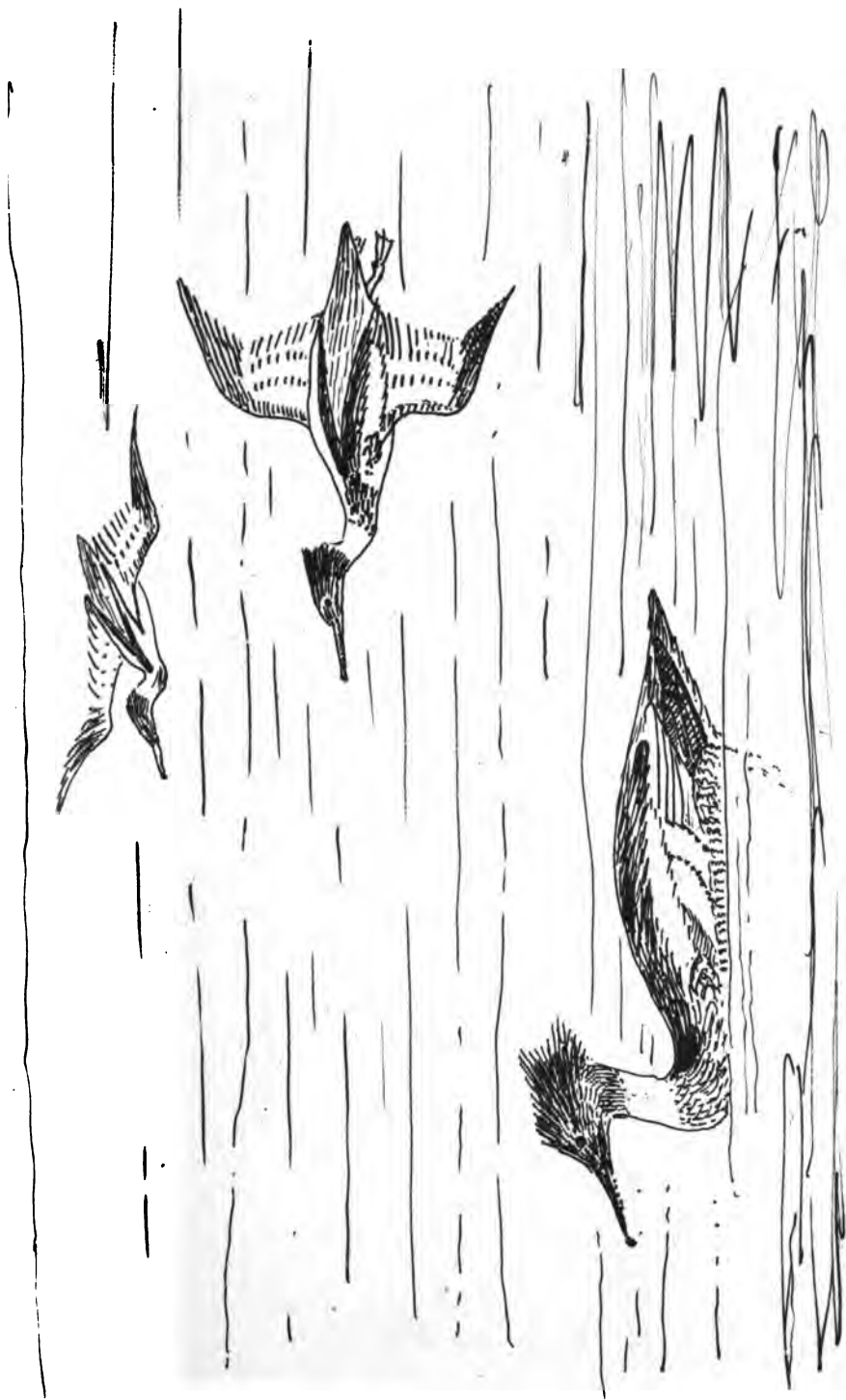
Leadenhall market, April, 1842.

When I was living in London about this time a mature drake Smew used to swim with a female Golden Eye in St. James' Park. The Smew I remember lost his white plumage in summer, the top of his head turning red, resembling the colour of a Weasel, but even redder, probably the reason of the birds having been sometimes called the Weasel Coot. I think these species resemble each other in many ways.

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#### GOOSANDER.

Male, January, 1844.









## BLACK GUILLEMOT.

## SUMMER PLUMAGE.

*Male and Female.*

Farne Islands, 14th April, 1889, and 11th March, 1840.

Although these birds were there so late in the season it is unnecessary to mention they are there only as winter visitants. These are the only two I have known to be procured in summer plumage, and so late in the year, except the one immature bird after referred to.

In October, 1886, a young Black Guillemot was shot near Cullercoats, and in December, 1887, I had three from the Farne Islands in winter plumage; they varied considerably in the white edgings to the black feathers on their backs, some of the birds at a distance looking quite white, excepting on the part of the wings which is black at all seasons.

All of this species I ever fell in with were very fat; they are anything but common, but I have also had others in winter. The Common Guillemot and Razorbill when met with in winter often are in poor condition.

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 LITTLE AUK.

## WINTER PLUMAGE.

I procured these two birds in Leadenhall market, in November, 1841. There were many there that year at the same time. No doubt some gale had caught a quantity of them and driven them inshore.

On December 21st, 1846, I had one killed on this coast. It is only an occasional winter visitant in England.

On the 8rd December (about 1855) the late Sir Walter Trevelyan wrote me a letter, of which the following is a copy:—

“ Wallington,

“ My dear Charles,

“ It may interest you to hear that I picked up a beautiful specimen of the Little Auk on a grassy ridge in the haugh near the garden house on the 1st December. It was quite dead, but could not have been long so, as its parasites were still alive about its head. I have sent it to the British Museum. It had probably been driven from its northern home by some of the late storms from the N.W. Perhaps you may remember a specimen we have here, which was picked up one winter morning, between thirty and forty years ago, at Cambo.

“ I hope you are all well, and with united kind regards and best wishes,

“ I remain, yours very truly,

“ W. C. TREVELYAN.

### THE DIVERS.

Early one morning in February, 1878, I shot either an immature or winter plumage Black-throated Diver, which flew past when we were watching Brent Geese. I gave it to Mr. Hancock. My son got two Geese the same morning.

The Diver was a lovely bird. When first shot its breast looked like silvery satin, and even the drops of crimson blood formed a pretty contrast to its otherwise chaste appearance.

On the 19th March, 1841, when with Major Woods, I shot a Great Northern Diver, also either immature or in winter plumage, with a large gun from a boat near Holy Island harbour on a very stormy day. It only looked like a Guillemot on the water. It dived but came up dead, lying on its back.

I have taken fishes called Millers' Thumbs, seven inches long, from the gullets of these birds; awkward food one would think unless they went the right way down.

The only time I ever saw one of these beautiful birds alive in full plumage was one rough day in May, 1878, when in Mr. Geo. Rendel's steam yacht in Loch Fyne, a Black-throated Diver came up near and looked about it and down it went again, but as we were going fast, and the water was very rough, though I looked for it I failed to see it again.

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### SCLAVONIAN GREBE.

#### SUMMER PLUMAGE.

Shot near Cullercoats, April 80th, 1880.

Very rarely met with except in its winter plumage, in which state I have often got them at Holy Island, where they are known by the name of Tommy Allans. What can this mean?

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### RED-NECKED GREBE.

1.—October 8th, 1851, Holy Island. Mature bird, with considerable portion of red feathers remaining on its neck. The gizzard was full of feathers, and a quantity of whole shrimps were in its gullet. It never flew but dived very quickly. Probably swallows all the feathers it moults. This bird was not moulting its quills. Probably they moult their quills when nesting.

2.—January 8th, Holy Island, also apparently a mature bird, having many red feathers in its neck, but having dusky lines across the cheeks.



In the winter plumage in some seasons it is often not uncommon on the coast, but very rarely met with in summer dress.

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I remember looking with great pleasure at the Great Crested Grebe in St. James' Park, about the year 1841, and admiring its dexterity in catching flies in the summer evenings.

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November 8th, 1854, when looking for Wild Ducks in the river Glen from Ewart Park I came suddenly on a Little Grebe in a shallow stream, where it could not dive, and being obliged to fly I shot it. I have often seen them, but they dive so quickly it is a rare occurrence to shoot one in deep water.

I have been informed that this bird breeds at the lough on Holy Island. Some few years ago a boat was taken there for some purpose or other, and amongst the weeds more than one nest were found. I have seen them there in autumn. In summer without a boat it would be impossible to find the nest, as the water and mud could not be travelled over. If it does breed there regularly, it is a good place, and no doubt the young will get away.

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#### EARED GREBE.

I shot this bird, partly in summer plumage, at Holy Island, when with Major Woods, March 18th, 1851, with a large gun, from a flock of seven. I thought they were female or immature Long-tail Ducks in the rough water. They flew readily.

8th March, 1886, and 11th January, 1887, I had this species. They are generally much darker about the head than the Sclavonian Grebe.

Mr. Harmer wrote me about the two shot at Horsey in summer plumage in May, 1862, and he says :—"The oldest gunner in Great Yarmouth, and he a man who knows birds well, told me he remembers about seventeen years since one being shot on Breydon, none having been seen or shot since until those at Horsey." He says he never saw one in the flesh until his friend showed him those that were killed at Horsey, and he is not aware of their breeding with us. On my writing to apologise for having written in the *Field* enquiring about these birds and the Spotted Redshanks, he writes :—"He was very sorry I thought it requisite to apologise in any way, but he must confess the rarity of the birds obtained would have occasioned doubts with him."

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#### CHANGES IN PLUMAGE OF THE DIVERS, GUILLEMOTS, AND AUKS.

Perhaps I ought to have made some remarks about these birds before, when writing on the changes in the plumage of other birds, but my reason for not doing so was I knew so little of them. I am quite unaware whether these birds breed the year after being hatched. Some circumstances lead one to believe they do, others that they do not. I find that on the 29th March, 1854, I shot a Black Guillemot near Holy Island, getting its black breast, but still retaining the spotted wing of the immature bird of the previous year, which otherwise was fast assuming its black summer plumage, before casting its first wing feathers, even the wing coverts. But has the bird ever been found breeding with the wing coverts spotted, though otherwise in its summer plumage that is with the black breast. It does not seem likely this bird would have moulted these spotted wing coverts till the following autumn, and I think it would not have done so. If this bird was an example of the immature bird, as they are universally at the same season, it would almost show

that the mature bird's full plumage is not acquired till the autumn of the year after being hatched, and at that season the mature bird's plumage would be acquired as a winter plumage, as in the Godwits, but at the same time it must be taken into consideration that these birds had acquired their summer (or black) plumage (except the white wing patch) the summer before, which the Godwits do not seem to do. If the Black Guillemots do not breed the year after being hatched what becomes of the immature non-breeding birds during their first summer? In the Common Guillemot the changes are less remarkable, there being no conspicuous wing patch to observe the difference on, and besides this they do not undergo the curious change the Black Guillemot does, which is from total (you may call it) black on the breast and belly in summer to total white on the same parts in winter, the Common Guillemot merely acquiring a dark hood in summer, by the acquisition of the change in colour of the chin and neck.

One is almost led to believe the Common Guillemot will not breed the first year, though it acquires the dark hood, its analogy to the Razorbill being so close. Now this latter bird seems almost an exception from birds generally in this respect, in this species you frequently see the bird in spring with its dark head, but still having a narrow beak. How is this? Most other birds acquire their full-sized beaks soon after attaining their full size, and I do not think the Razorbills will breed till they have acquired the full-sized beak, with the white mark in the groove, and which I think they will not do till at least the autumn of the year after being hatched.

I find I have seen old Common Guillemots as early as Feb. 28, 1886, with black heads.

The three species of Divers, although so closely allied to each other in most respects, appear to be singularly different in one of their changes of plumage, the Great Northern and the Black-throated being similar in their change, but differing from the Red-throated species. The young birds of the year of the first two

species having nearly plain backs, the centre of each feather being grey, whilst in the latter species it is distinctly spotted. Not only does this state of plumage appear to be alike in the immature state, but the winter plumage of the old birds seems to be nearly similar to that of the young of the year. The summer plumage seems to be acquired, so far as the head and neck are concerned, in a similar manner in all the three kinds, but in the Great Northern and Black-throated in summer the back becomes (I may say) magnificently spotted with conspicuously large snow white spots on a dark ground, whilst in the Red-throated kind instead of the spots becoming conspicuous the more conspicuous spots of the winter seem to wear out, and its summer plumage on the back becomes a dingy brown colour, the plumage on the back instead of being renewed in spring, as in the other kinds, merely becoming more faded and worn. Such differences appearing in the time of the moulting the whole of the back feathers in two species so nearly allied renders it almost hopeless to lay down any general (even generic) rules as to the acquisition of the states of plumage in birds, and points out that our endeavours to find out Nature's reasons for the variations can only be a kind of an approximation to what actually takes place.

The Grebes, like all other species, have the three states of plumage; first, that of the young of the year, which is never again acquired and is soon in a great measure lost by the partial moult before winter; second, the winter plumage; third, the summer plumage. After this, so long as the bird lives, the change is regular each year with the seasons by a complete moult in autumn, and by a partial moult in spring, when the ornamental head gear is obtained; but whether they breed the first year after being hatched this deponent saith not, because he does not know.

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## CORMORANTS.

We have two young birds fully grown. It is highly interesting to see them. They are quite tame, and take the water on being driven to it, and from a bridge their underwater evolutions are easily seen. They look like seals, turning and twisting in the water with the greatest ease, using their large tails as rudders, and using their feet only as paddles, not that I can see ever opening their wings under water.

Before we brought them home they were accustomed to fly from the sea to where they were kept. Unfortunately one had its wing broken by a boy who threw a stone at it, and which caused its wing to hang down. This considerably impeded its diving. A friend cut the wing off near the body, and tied the artery and sewed up the skin, which readily healed, and now having lost the impediment to its diving it is, so far as we can judge, as active as its companion, the only difference is it gets more wet and takes longer time to dry in coming from the water. So soon as they are tired they come out and walk to where they are kept, or linger on the way, keeping their wings expanded, as we see the wild birds sitting on the rocks, and turning them and their tails sideways to the sun when it shines. Nature seems to adapt each of her species to its necessities. How different they are in their diving arrangements from the Guillemots, which simply seem to fly under water.

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GANNETS.

Sept. 5th, 1837.—I saw some young Gannets alive sent from Bass Rock. These were nearly as large as old birds. Two were entirely covered with white down, two others had some back and wing feathers appearing. They all had a curious bunch

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of down on the top of their heads. Eyes dirty white colour, They swallowed whole herrings with ease.

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## ON THE STRUCTURE AND HABITS OF SOME OF THE SWIMMING AND DIVING BIRDS.

When we examine the beaks of birds the various forms are very interesting, each being adapted for the method of feeding requisite for the particular kind, but often different even in birds feeding in similar substances. Take, for instance, the Cormorants and Mergansers. Both have to catch and swallow fishes. In the one kind the beak is toothed like a saw and in the other plain, but both tribes have a very strong hook at the end of the beak. Though the Cormorant has no teeth, yet his grip of his prey is as sure as that of the Merganser, and his vision appears perfect, as he never seems to lose a fish if once caught, though he has to toss it up often several times to get it into the position to enable him to swallow it, which is head first.

Though the Cormorant has a strong hook at the end of his beak and an enormously capacious throat his near ally, the Darter, has an insignificant head, and a very small straight beak in conformity to its head; but probably its food will be very small and weak fishes which it catches in inland shallow waters. One can easily imagine what confusion his appearance under water would create amongst a shoal of fishes like Sticklebacks, and the quantity it would take to fill his large stomach, notwithstanding his small head and neck. The beaks of the Grebes are similar, in the larger kinds, to those of the Divers, they living principally like them on fishes; but in the smaller kinds of Grebes the beaks resemble those of the Coots and Water Hens, they probably feeding like them principally on insects and such like food.



Now the beaks of the Divers are not hooked at the tip, neither are they furnished with teeth, yet notwithstanding, they can not only catch their slippery prey (fishes) but apparently hold them as easily as the Mergansers and Cormorants. All the kinds when they once seize a fish, it has no chance to escape from their deadly grasp.

The beaks of the Swans are strong, and adapted as well for feeding on floating weeds as also to tug away the roots of those growing in the water, which their long necks enable them to reach. The beaks of the Geese somewhat resemble those of the Swans, but are better adapted for grazing on land. The beaks of the Ducks are flat, the diving kinds shorter and thicker than the surface feeders, particularly the Scaups, which often take shells out of the sands when diving; more so than the Pochards, which feed perhaps as much on seeds. The Eider has a strongly hooked beak, to enable him to crunch and swallow Dog Crabs, (When I come to Eiders again I remember I before neglected to mention when we were at Holy Island, in July, a few years ago, we frequently saw a cream or dun-coloured bird flying with others of the ordinary colour, which I think was a duck or young bird, as none of those in company with it shewed any white; it was well known to the fishermen), whilst the surface feeding ducks, as the Mallard and others, have beaks most useful for their omnivorous propensities, culminating in that of the Shoveller, which is one of Nature's masterpieces; so cleverly is it contrived that no swimming insect entering its beak has a chance to escape through its fine teeth with the water which so easily passes between them. In many respects this bird much resembles the common Wild Duck, but in consequence of the character of its food it is much more sensitive of cold weather, and in consequence by far the greater number of them pass our winter in southern climates.

There seems to be little doubt but that the further the legs of such birds as are included in these remarks are placed forward, the more easily the birds can rise from the surface of the water. We see this from the greater facility with which Mallards,

Wigeon, Teal, and such like wild fowl rise from still water. These birds often rise straight up, whilst Pochards, Scaups, Golden Eyes, and other kinds whose legs are placed further back, often have to flop along the surface for a considerable distance before getting fairly on wing, more particularly in calm weather. In windy weather they almost invariably rise against the wind, which helps them considerably. We see this on fresh water. It is the same at sea, from which all these diving ducks, together with Cormorants, Divers, and Grebes, rise much more easily when it is rough, and whenever there is any wind they almost always rise against it. Taking this into consideration, a good boatman will often guide you in such a way as to get you a shot by keeping ahead of the birds and intercepting them in their flight.

It seems singular all diving birds do not use their wings and feet when diving in a similar manner. They do not appear to do so, some kinds diving only, others swimming under water, and some others actually flying under water. This can be seen at the Brighton Aquarium by paying attention to the Guillemots there exhibited. If we consider this matter, and examine the formation of the feet and wings, and the position of these members, we can form an opinion of the way Nature intended their possessors to use them.

First, we will take the surface feeding ducks. These turn up in the water, so as to enable them to reach the bottom with their long necks, as the Mallard, Shoveller, Gadwall, Pintail, Teal, and others. All these have the legs well forward on the body; if they were not so the birds could not turn up as they do and reach their food, for which they do not seem to dive. Now these kinds of ducks, comparatively speaking, are not to be compared as diving birds to the Scaup, Pochard, Tufted Duck, Eider, and other kinds whose legs are placed much further behind. All these dive for their food, as do the Mergansers, whose feet are similarly placed.

The Swans have their feet placed as the surface feeding ducks, and in consequence they can turn up and reach the bottom with

their long necks ; but except when washing, when they merely get below the surface of the water to splash it over them, I think they do not dive, but I have no doubt they can do so, especially when young, in order to escape danger, particularly when in a wild state. The Geese have their feet in the same position. They swim only, and feed often when swimming, but seemingly only dip their heads in doing so, and probably, if occasion should require it, they also can dive well. Geese, as is well known, also spend much of their lives and feed much when on the land. Like the surface feeding ducks the Sheldrake seems to be fond of diving when washing and for amusement, but I do not think it takes much food at a greater depth than what it can reach from the surface, though he might follow a shrimp till caught.

There appears to be a considerable difference in the way diving birds get under water. Some kinds, like Tufted Ducks, take a regular header, while other birds, as the Divers and Cormorants, often simply disappear, hardly leaving a ripple behind them, even in smooth water, and it is curious to observe the difference of force apparently required to take birds under water. When diving I have often watched birds from a distance, and when each time they went down before doing so, they seemed to almost jump out of the water, apparently to get sufficient force to carry them down, but I apprehend this is only to enable them to get the free use of their feet, as so soon as they are once under water they can swim in any direction they like. If they could not, how could they catch fish ? I have seen the Tufted Duck remain under water for a considerable time and come up with a small fish in its beak to swallow it, evidently having hunted it under water ; but I have also watched this bird come to the surface and show its head only above water, and dive again scarcely making any ripple on the water.

I do not think any of the Ducks fly under water, as I have seen Diving Ducks dive in search of food, and go a considerable way under without using their wings.

Each species of swimming bird seems to be perfectly and admirably adapted in shape for what it has to do, although we

find so many different and apparently opposite forms used for similar purposes. We need not go further to show this than to look at this difference in the most expert divers and swimmers. When you look at the feet of the three kinds of Divers and those of the Cormorants how very different they seem to be, and yet you would expect to see them alike, as they seem to be wanted for a precisely similar purpose; but this is not so. What is wanting in the one kind is compensated for in the other; the Cormorant having its tail to steer with, the Divers and Grebes having little or no tails are obliged to steer with their oar-like feet.

Why have the Divers such curious-looking legs and toes? The birds seem as expert divers as the Cormorants, but how widely different the propelling and steering power seems to be. It would seem likely the Divers would when they chose fly under water, and in which case the wings would be the propelling power as they appear to be in the Guillemots, in which case the legs would be used as steerers, the birds having such short tails and so different in form from the Cormorants; but I do not think the Divers are always flyers under water, as one often sees them in rough water, when a wave is coming, merely put their heads into it and reappear at the other side, having gone clean through it. It is quite clear this is little or no exertion to them, as they will sit in one place for any length of time and merely go through each succeeding wave as it comes. Do the Divers ever use their wings to propel them through the weeds to get to their nests? It must often happen the level of the water will alter between the time of their laying their eggs and hatching their young, in which case they would have to push themselves to their nests over the mud and weeds.

Guillemots simply fly under the water. If Razorbills also fly under water as Guillemots do, and use their wings in doing so, how does the Great Auk dive probably greater distances merely with what might be called fins instead of wings?

When mentioning the Great Auk, which is included as an English bird, I would add I very much doubt its ever having

been met with in what we call recent times. Was this bird ever a migrant from its breeding grounds? I much doubt a bird not able to fly, being able to swim such a distance as one, if found here must have come. In prehistoric times the bird may have been distributed over Northern Europe, that is before some of the lands were separated by great distances of water. The Dodo may also have existed over huge tracts of land which sank below sea level, and the last survivors only, left on the small island as they probably were.

There is no doubt but that the shape of the bird and its legs and wings, and the position of them, were all made for the kind of bird's special use. Now Cormorants do not seem to fly under water, always I think keeping their wings close to the body. They have remarkably powerful feet, and all the four toes webbed together, giving them enormous propelling power, and they seem to use their large tails as a steering power. The Cormorant looks to me when under water like an otter, and when down you can trace its movements by the air bubbles it sends up in quantities. I presume when it comes up to breathe, it gets a renewed stock of air to enable it to dive again, when it takes down the quantity it sends up by these bubbles till all is exhausted, when it must again come to the surface for more. As the Cormorants sometimes breed at a distance from the water, probably Nature furnished them with large wings to enable them to reach their breeding places; and it would also appear necessary for the Divers to have large wings to enable them to reach the fresh water lakes, on the margins of which they lay their eggs.

In the Grebes and Divers we find the feet of peculiar shape (in the former tribe the toes likewise); the feet are flattened, so that when they are brought forward the toes also become flat, and thus offer the least possible resistance in drawing them forward previous to the webs being spread, when they offer the greatest resistance to the water in going back, in order to propel the bird forward both when swimming and diving. The thigh bone in these two groups is also lengthened, probably for the

express purpose of giving the birds greater power in using their feet. I have sometimes thought about the shape of the toes of the Grebes, which in some respects are like those of the Coot and Phalaropes. Can they be so formed to enable the bird to swim well, and at the same time be divided so that the birds can use their feet more readily amongst weeds, these kinds of birds nesting in shallow waters where weeds abound in summer.

Instead of the Divers having four toes webbed together, as the Cormorants have, they have only three toes webbed, and the fourth is only almost an apology for a toe. One would think as the Cormorant uses its tail so much, it would be less requisite for its four toes to be webbed together than for the Divers, which have such short tails, yet the swimming and diving powers of the two kinds of birds appear about equal, the distance they can both go under water being surprising.

The Smew, though differing so greatly in form from the Cormorants, Divers, and many other birds which seek their food under water, is nevertheless a most perfect swimmer and diver. The live bird in the St. James' Park Gardens long ago used to be a constant source of amusement to me to watch its habits. I have seen it in winter, and when in its white plumage, dive for food under the black ice from the hole where the ice was broken for the birds, and when from its conspicuous colour it was so easily seen. It would remain away under the ice for some time, and appear immediately under it at some distance from where it went down. When it came up it appeared as if its bill touched the ice, and when it once came to the surface it came straight to the open water, and on arriving at the hole it bobbed up like a cork. I wonder what directed the bird to the open water? This bird is most compact in shape, and most perfectly adapted to offer the least resistance to the water, both when diving and swimming; the beautifully-pointed head shows this, and though the bird might be called thick set, the whole proportions slope away so gradually that they offer the least possible resistance either to the water when swimming or diving, or to the air when flying. I do not think the Smew will fly under water, but it

will use its feet as propellers and its rather enlarged tail as steering apparatus, the tails of the Mergansers being large and in some measure approaching in appearance those of the Cormorant. The Smew, like the other Mergansers, feeding I think entirely on fishes, which they must catch for themselves, necessitates their being the aptest divers, as also are the Cormorants and the Divers, which also seem to exist only on fishes which they can catch, and for which they must be more than a match or they would starve. This is not so with many of the diving Ducks, which more often dive to the bottom for shell-fish or other food not necessarily in a violent state of activity when captured or found.

It would appear the deprivation of the power to fly, in consequence of the apparently deformed wings in the Penguins, is amply compensated for by their being able to use them as fins or paddles. Probably from the method in which Nature has required them to live, large wings would have been only in their way. Yet it seems incomprehensible to man that in two kinds of birds so nearly allied in other respects, as the Razorbill and the Great Auk are, the formation of their wings should have been so different.

The positions of the feet in the Penguins and of the finny wings seem to be very like those of the Walrus and the Seal, and no doubt what is convenient for the one tribe of animals is also suitable to the other.

I was much pleased to see one of the Penguins in the Zoological Gardens feeding on some small fishes put into its tank. The bird used its small wings precisely as a fish would use its fins or a seal uses its feet if you choose to call them, turning with ease on its side, just as a seal or fish would do, and catching the fish with the greatest certainty, and I think swallowing them without coming to the surface, but I did not notice it swimming on its back as a seal can.

There can be no doubt but that the various forms of birds and the position of their wings and feet are adapted to the

circumstances they were created to exist under. For instance, some kinds generally inhabit water which is often still, as lakes, while other kinds have to be on the sea, which is seldom smooth, and in consequence it will require a different kind of power to enable a bird to rise from rough water from that requisite for it to rise easily from smooth water, hence the difference in the position of the wings and also of the feet, and it will also require a different kind of power to dive easily in rough water from that requisite to dive easily in smooth water, hence again the difference in the position of the feet particularly, and also of the wings of such kinds as use them when under water.

If you watch any of the species of Divers on a rough sea you will see the facility with which they merely place their heads to a coming wave, through which they go with seemingly no exertion, the body being lifted into a more fitting position for the bird to dive from than it would be from water which was still.

The Shearwater seems to be a singularly aptly-formed bird, and I should think it would be adapted entirely for locomotion both as a flyer in air and water, that is using its wings both above and below, and also an expert swimmer and a diver also, using its feet for these purposes. The wings are long and strong and the bird is light in weight, but at the same time it resembles a Guillemot, an adept diver in form, and in addition to this it has the peculiar formed legs and feet of the Divers and Grebes (except the peculiar shaped toes of the latter), but unlike them it has a fair-sized tail also, which in diving might be used as a rudder.

All birds, as I have said, are perfectly formed for the purposes Nature intended them. I am only at present alluding to water birds. If we look at the Gulls how beautifully adapted they are in shape to rise from the water and to swim, but not to dive. They have very large wings enabling them to fly well, light bodies to make them buoyant, but the fact of their being buoyant prevents their being able to dive. I have often seen Gulls trying to get down to reach food just too deep for them in the



water and failing to do so. When we come to the Terns they are to some extent similar to the Gulls, but because they have to take their living prey in the water, though they are buoyant, they are more delicately formed, with finely-pointed beaks, with much more closely set feathers on the throat and breast, and with a finer-shaped head, to enable them to penetrate into the water to a short distance only, to secure their prey, but they do not dive. The Gulls have rather large legs and feet, as they often travel on the sands and elsewhere in search of food as well as swimming and resting on the water. The Terns have small feet and legs, apparently to enable them to rest on the water only, it not being requisite for them to swim much, nor to travel on land in search of food, but the want of size in the feet is compensated by their great extent of wing, which enables them to migrate to distant southern shores, where they get their food in winter. I am only making these remarks generally, as I know that such remarks will not apply to the what I may call outsiders to any group. Now we get from the Terns to the Gannets, there being many foreign kinds which bring these groups nearer to each other. One feature connecting the Gannets and the Terns is their similar manner in capturing their food, which is so well known by those who live by the sea side, namely, their dropping from a height upon it into the water. For this purpose we see the pointed beak and the finely tapering head and the great length of wing, but when we come to the feet how different. I am not aware of the reason of the Gannet having the four toes connected by webs like the Cormorants, the Gannet not so far as I know diving, nor being much of a swimmer. I always fancied it merely rested on the water, but it may be a powerful swimmer, as when one sees it apparently resting on the sea it may be swimming faster than one is aware of.

It is curious the difference in the affinity to species in a group of Nature's creatures. In some instances all the species of the group appear to have some distinguishing character, as in the three Divers, the Great Northern, Black-throated, and Red-

throated, which have the general colours corresponding not only in the plumage but in the naked parts. Now in the surface feeding ducks of our own country there is not this similarity. For instance the Mallard and Shoveller have red legs, whilst the Pintail, Wigeon, and others have dark legs; the Gadwal coming between, with its orange legs and dusky webs. It appears in other respects intermediate between the Teals and the Mallard, the drake having the black and narrow beak and the characteristic spotting on the breast like the Common Teal, and resembling it as well as the Mallard in form.

When we look at some of the diving ducks we again find a divergence in character in the groups. The Scaup being in winter a sea duck, its plumage is rather harsh, more so than the Pochard, which is more an inland bird, and also more so than the Tufted Duck though it seems closely allied to the Scaup in the shape of its beak and in other ways. Then again we see the White-eyed Pochard, which is again a delicate-feathered bird, and I should think an inland bird generally. These species have dark feet, but different-coloured eyes; but when we see the Red-crested Pochard then we come again to a change in the colour of the feet, which are red. I think this bird shows some affinity to the Mergansers. How admirably the feet of the Scaups and such like ducks are placed for the purpose required. When first looked at they appear large and unwieldy, but having once seen the birds use them you observe the ease with which they enable the birds to swim and turn in any direction when swimming and diving.

It has often struck me as remarkable that in a bird apparently so nearly allied to the common Wild Duck as the Dusky Duck of North America there should be so little difference in the plumage of the duck and drake in it. If Nature made it necessary to have so great a difference in the sexes in one, why was she not consistent. In many other foreign species of wild ducks, resembling our Mallard and Pintail in which the sexes vary so much, the difference appears trifling. How is this and why is it?

The skin of the necks of some of these kinds of birds is a guide in some measure to what they prey on. In Gulls, Divers,

Mergansers, and Cormorants it is very elastic, evidently to enable them to swallow large substances; but when we come to the Swans, Geese, Ducks, and Grebes, it is remarkably the reverse, as every one knows who has been in the habit of skinning birds. This proves that though the Grebes take fish like the Divers they can only be of a very inconsiderable size.

I have often wondered and thought about some of the different forms of Nature's wonderful productions. In some cases the most opposite of them seem in some respects to have affinity to each other. We see amongst quadrupeds, Otters, Seals, and other kinds seem to come near Penguins, and even to some kinds of fishes, then again the Hippopotamus in its evolutions in the water resembles some of these, and also in some respects even Alligators and Crocodiles. How this huge and heavy mass of flesh and bone can move as it does in the water, disturbing the surface so little as it does, is surprising; and how wonderfully placed the eyes are. Often when swimming or resting on the water they appear just on the water line, and when the animal itself looks like a huge reptile.

How few persons one meets with take any interest either in these wonderful productions of Nature's fancy or their habits? Surely they ought to be of sufficient interest to attract the attention of us all to some extent.

Amongst other circumstances occurring to one's mind there is this, which has always struck me as unaccountable, it is the difference in the what we might call the apparent purity and impurity in various groups of birds feeding on similar substances. Now if we take the Cormorants and Gannets, and also the family of Petrels, all of which feed on fish or fishy substances, we are not surprised they should have a similar rank musky smell; but why have not the Mergansers, the Divers, and the Grebes also, and also the Terns and all the Gulls? No birds seem to be more particular in keeping themselves clean than Cormorants, notwithstanding which they always have their disagreeable smell, but which will undoubtedly not be so to them. The Cormorants

when deprived from getting to the water for any time give themselves a most complete washing, diving and gambolling in the water till every feather is soaked, notwithstanding their extreme oily nature. These birds in travelling through the water look like little steamboats, swimming very low in the water at a great pace, and merely keeping their heads and necks and the feathers on the back only, above the water. In fact they almost look like the representations of Sea Serpents. It is after such washings they delight to bask in the sun, turning their expanded wings and tails to it and to the wind to dry their feathers, but they also seem to be able to bear any amount of cold without injury so long as they can procure food.

The Terns resemble purity itself in their exquisite and lovely shape and colouring, as do other tribes of birds. The Terns, the Gulls, Mergansers, Grebes, and Ducks, even the fish eaters amongst the latter, are free from this musky smell, and if they as fish eaters are, why are not also those other kinds whose eggs and feathers even retain this smell for years.

All water birds delight in washing themselves, even to the Waders. I have often seen a whole flock of these washing at the same time in a shallow pool.

Now a word or two about the colour of their eyes and feet, and also of their eggs. Why are the eyes of birds sometimes of the same group alike in colour, whilst in other groups they are different. In the Cormorants when old they are deep green, apparently the quintessence of colour likely to be derived from oil. In the Divers when old they are rich claret colour, in the Terns they are black, and in the Gulls various. In some they are black, and in others when old, the rim is straw colour. In the Ducks we see even greater variation. In the Mallard, Teal, Wigeon, Pintail, Gadwall, and Garganey, they appear all dark, whilst in the Shoveller drake, when old, its eyes are bright yellow, these are surface feeding birds. In those which dive for their food there is greater variety in the colour. The Eider and Scoter have dark eyes, in the former bird very small and scarcely

visible among the black feathers in which they are placed. In the Velvet Drake the eyes are nearly white. In the old Golden Eye, Scaup, and Tufted Drakes the eyes are all the brightest yellow, but in the old Golden Eye duck they are a lovely pale lemon colour. In the old Pochard drake the eyes are a very peculiar red colour, and in his duck dark. In the old White-eyed Pochard drake the eyes are white, and in the duck a dirty cream colour. In the Grebes the colour of the eyes varies. No birds have more lovely-coloured eyes than the Eared and the Slavonian Grebes, only there is a double iris in these, the inner one paler, and the outer one an indescribably bright pinkish lake colour, whilst the Red-necked Grebe appears with a pale rim. What gives the colour to the eye, and for what purpose can these different colours have been given?

Now as to the colour of birds' feet. The Cormorants seem to have similar-coloured feet, but the Gannets' feet and toes are wonderfully striped with green. The Divers' feet seem much alike in colour, as are also those of the Grebes. In the Merganser and Goosander the feet of the old drakes are a magnificent lake scarlet colour, and the red is apparent in their beaks and in the eyes of the former kind, and a rich salmon colour is diffused over their bodies. In the Smew in the beak, eye, and feet, and in the whole plumage there is a complete absence of the rich red colour. Why is this? Its colours resemble those of the Golden Eye, except the latter bird has yellow feet with dusky webs and the yellow eye. This bird's tail in shape much resembles that of the Smew, and probably the two species use their tails in a similar way in diving, different from the short-tailed Scaup and such like birds.

Can the colour in the different kinds of birds be of any utility to them, or is it only Nature's freak to make them so unlike. In two kinds of birds so nearly allied as the Redshank and Green-shank why should it be expedient to have the colours of their legs so opposite, in the one kind the brightest orange red and in the other green?

In the Gulls the beaks and feet vary much in colour. In the Black-headed Gull when old, the beak and feet are dark lake colour; when old only, the beak and feet of the Lesser Black-backed are very rich orange colour. The old Herring Gull and the Great Black-back have flesh-coloured feet. In some of the smaller Gulls the feet are greenish. The old Common Gull has a brilliant scarlet process round the eye, and it and the Black-headed Gull, as well as the Sandwich Tern, when moulting their breast feathers show the pink tinge like the Roseate Tern.

In the group of our Terns also the beaks and feet vary in colour, the Sandwich having black beaks and feet, and some of the others have brilliant orange-scarlet feet and red beaks. Again I ask what gives these various colours? The peculiar condition all birds get, and which constitutes their maturity, seems to occasion the development of these bright and vivid colours on the feathered parts of their bodies as well as the naked parts.

If I were to begin in earnest to write about birds' eggs I feel I should not only try, but I should entirely exhaust my reader's patience. I will therefore make very short work of the subject, and only refer to a few striking examples of what I want explained.

Now the Cormorants, Grebes, Gannets, and the Flamingo appear to lay eggs somewhat similar, the ground colour being white and the surface of the eggs being rough. Soon after the eggs are laid they become stained. Perhaps this is to render them less likely to be observed, but if such protection was requisite why were they not laid of a darker colour? The Divers lay very characteristic eggs, oblong and rich-coloured, and generally very typical. Why do they differ so much from the Grebes, whose eggs are also similarly typical? What affinity is apparent between Flamingoes, Cormorants, and Grebes, and whence do they get the apparent extra quantity of lime with which to form their thick egg shells. If the Divers, Gulls, and Terns are able to colour their eggs as they do, why are the other kinds

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has nothing to do with the change in colour which makes a bird piebald.

Some years ago a friend asked a party, including my elder son, who was then a boy, and myself, to shoot his coverts. When we got to the side of the covert, which was an outside one, my friend said to us we might shoot anything we chose, but he said there was a pale cock Pheasant he did not want shot. Well the first bird which got up before my son was this identical Pheasant, which he killed. I presume he thought the chances were the foolish bird would not come in his way at any rate. Our host was not in the least put out, and took it all as kindly as possible, which might not have been the case with every one under similar circumstances. He is now dead, but should his son see this account it will call the fact to his recollection.

It is interesting to watch the habits of any kinds of birds. One sometimes hears of the cruelty of an entomologist in taking insects, and the supposed injury to the species by his capturing specimens of the apparently rarer kinds. Now if such injury can be done by a man who goes out occasionally, how much more must be done by such an entomologist as even a single Pheasant or a whole brood, which are constantly on the look-out for insects of almost every description, rare and common. I have often watched Pheasants catching butterflies, and it is astonishing how quick and certain they are about it. No insects seem to come amiss. Each one's collecting box during a day would hold many more insects than that of the human entomologist, however greedy he might be; but when you consider the enormous quantity of insects destroyed in ploughing out a single field of grass, and the extent of land turned over each year, it seems wonderful there are so many insects left. For instance, the common Butterflies, Meadowbrowns, and such like, can only be produced on the pastures or the sides of roads or woods. Such lands as are often turned over and pulverized it is simply impossible they could be produced from.

My children, when they were young, used to take great



pleasure in bringing up birds ; they reared young Pheasants from eggs set under hens. It was ridiculous how tame the cocks were when fully feathered, and how pugnacious they were. One they had would fly at whoever came to the house, more particularly women. It would jump up against their petticoats, falling back on its tail, which became all broken. It was a terror to the neighbourhood, and would fly up to the windows when any one appeared at a window. It became so great a nuisance it was sent away.

When on the subject of Pheasants I add the following remarks I find I had written many years ago, apparently for the *Field*, but which it would appear was not suitable. I print them as I find them amongst my scraps on going through them. They are as follows :—

“In the *Field* of March 12 you state you have given drawings of every known species of the group of *true* Pheasants useful for turning out in preserves, with the exception of *Phasianus Mongolicus*, and *Scintillans*, and also *Decollatus*. You then state the comparatively wide distinction between true Pheasants and other birds commonly called Pheasants, but which are of quite a different genus, species, or race, or whatever other term may be used. You then state that the true Pheasants, restricted to the genus *Phasianus*, are remarkable for the facility with which they interbreed with one another, and for the circumstance that the cross bred progeny are perfectly fertile, and that no less a naturalist than Mr. Gould has expressed his opinion that before many years are passed pure bred Pheasants of any species may possibly be difficult to find in this country, and that some must fain modify their old notions respecting the sterility of hybrids. Now the old question of what are species and what are hybrids appears to me to remain unanswered. In the first place I do not think birds in a state of semi-domestication, as Pheasants are in England, and in various distant parts of the world, and that may have been in complete domestication in some places for centuries, ought to be taken as examples of species any more

than domestic poultry or pigeons, or even cattle, pigs, dogs, or horses, either in total domestication or as they have spread themselves either in an apparently wild or semi-wild state in various countries in which they may have been introduced and escaped and naturalized themselves. It seems to me possible and even probable that *pure* bred Pheasants, that is what they were originally as a species, do not exist at the present time any more than the originals of our ordinary domesticated animals, and then many of the what are called species are varieties only. Is it not quite possible that many of the apparently wild forms of many of the animals we have in domestication are really the same species, but have become different in appearance from various local causes. The whole matter appears to be one of which no satisfactory explanation can be given. No rule is universal. The whole system by which things are carried on by Nature is extraordinary, and will remain unfathomable to man's unlimited knowledge. If we could explain all the matters we would be getting too wise. It never was intended that we should be able to explain them, we can only look on and wonder.

It certainly seems to me to remain to be proved that the progeny of hybrids of Mongolicus, Scintillans, Decollatus, and even *Revesii* will be fertile. That species will breed together we have abundant proof, the Common Pheasant producing a cross with the Golden Pheasant, with the Black Grouse, and also with the domestic fowl. I know one instance of a fine male of the latter cross roaming in the woods with Pheasants for several years, and have heard him crow, but no instances of further produce from him has appeared in the neighbourhood. If hybrids can produce fertile offspring why is there a limit? and why are two species of a very comprehensive group more nearly allied to each other than to others of that group? Are we to suppose that links have ever existed which would have made all species alike at some time."

Though this was written now some years ago I do not think any hybrid Pheasants (I mean those bred between two distinct

species) which are fertile have been found, nor do I think it at all likely they will be. For instance crosses between Golden and Common Pheasants, which are true hybrids, there the first cross appears to stop. When we come to crosses between the Japanese, our own common bird, and the Chinese one, which are most probably merely local varieties of the same species, and probably descended from domesticated birds, the case is totally different; they are not hybrids, and in consequence the young birds are fertile. If you look at these birds attentively you see the same space around the eye of the cocks bare and scarlet in each, showing their original specific distinction. No two distinct species I think ever show a similar conspicuous mark like this eye process as these varieties of the Pheasant do.

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#### PARTRIDGES.

These birds, cock and hen, were brought up by my children. The cock was killed by accident, the hen died, having lived many years. In this species the cocks and hens are nearly alike, though there is a trifling difference, but it is not every eye can distinguish it in many cases. Although the cock has the horse shoe mark it varies considerably in colour and shape, and many hens have this to as great an extent as many cocks. Some hens have none of it, and many only a small portion, sometimes a feather or two only. The general markings on the cock are as a rule finer, and the red brighter, particularly on the wing coverts, than on the hens, which are browner.

A singular variety often occurs in this neighbourhood, looking as if in the old bird, the colour of the horse shoe mark on the breast had run over almost the entire plumage. Who can account for such a singular variety, which seems to be nearly constant in the individual the freak of Nature appears in. It is singular also that the young birds to assume this colour are quite

different in appearance to the ordinary young or first plumage, the back feathers in them resembling much the first feathers of the young Terns. It is a question whether the variety is accidental or hereditary from either parent. That the dark colour is derived from the horse shoe mark seems probable, as the young bird shows none of it, and it is only when the dark colour of the mark appears that the colour seems to take possession of nearly the entire plumage. Are these dark-coloured birds all cocks?

Perhaps the most interesting tame birds my children ever had were Partridges they brought up from eggs set under a Bantam. One of them lived for a long time. They never had their wings cut nor were pinioned. The one which lived longest would follow them all over the garden, and play with them amongst the cut grass. It generally slept in a greenhouse, and sometimes considerably cropped the plants. When they were in the garden it accompanied them, sometimes jumping up and flying along beside them when they ran, keeping close to them about their height, and it would allow itself to be covered over with the cut grass, and seemed to enjoy being played with. After living about four years it took ill and died. It seemed marvellous that it should have lived so long, as at the time we had it we had four dogs, but no cats, but still neighbours' cats came about. It did not care in the least for our own dogs, and they never interfered with it, and it only on one or two occasions ever left the garden, and then it soon began to call in the adjoining fields, where it suffered itself to be caught quite easily.

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#### CAPERCAILZIE.

Male and female, Norway, March, 1840.

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**BLACK GROUSE.**

Hen in partly cock's plumage. Shot at Elsdon, Dec., 1887.  
Dissected by Mr. Hancock it appeared to be a hen.

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**RED GROUSE.**

Two males, very much marked with white, and two females, much spotted with yellow and white, December 1844 and 1845.

Some of these birds were killed at Woodburn, where I used to go to shoot with the late Mr. Wm. Brandling, in December, the last few days of Grouse shooting. His friend, the late Mr. Matthew Bell, of Woolsington, then having the shooting, and which was before the common was divided. We used to go with a horse and cart in the early morning, and in a white frost often got some birds, the cart carrying provisions to the rendezvous where we met in the middle of the day. The old keeper was a good hand at getting Grouse late in the season (there was no driving in those days). We took different directions, each following up the hollows, never crossing over to the next, but on arriving so far as it was of use going returning down the hill again and starting up another hollow from the bottom, and it is surprising sometimes how you thus get near Grouse on a moor which appeared almost flat.

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**PTARMIGANS.**

I know little about these birds, as I never saw them alive. When I was in London, in 1841, I used sometimes to meet with the late Mr. Yarrell, at Mr. Grey's, at the British Museum. On one occasion, on being at the former's house looking at his collections, he showed me some Ptarmigans' eggs, which had been























Newcastle. I was told it was sent from North Tyne district. It was quite recently killed. Afterwards Mr. Hancock got it from me.

On the 8th October, 1858, I saw a young Peregrine Falcon, which a fisherman at Cullercoats had shot early in the morning whilst feeding on a Woodcock which it had probably caught before having actually alighted.

On the 16th May, 1856, I was with Mr. Hancock at Prestwick Car when we saw an Osprey. Mr. Reay had put up a stick in the water within shot of the edge for it to settle on, so as to shoot it, but I think his attempt to do so failed.

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#### MERLIN.

Mature male, Elsdon, May, 1887.

On the 20th Sept., 1858, I shot an immature bird.

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#### RED-LEGGED CROW.

Isle of Man, Jan. 5th, 1887. Had been feeding on corn and beetles.

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The Rook lays late in March, and towards the end of May the young fly, showing how rapidly they grow after being hatched and how soon the young are able to provide for themselves.

Now the Rook only breeds once in the year, and perhaps naturally has few enemies (man during the time he kills the young birds makes up for this).

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Amongst our numerous tame birds were Jackdaws. In April and May, 1872, wild birds came much about, and I think a male bird paired with our tame one. They sat together on a pear



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ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

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THE SECRET SERVICE

I think these birds come on migration, but where from or whither going I would not venture an opinion.

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### RED-BACKED SHRIKE.

#### *Male and Young.*

When on a tour through Cumberland, looking after Dotterels' eggs, in July, 1840, with Mr. Hancock, we fell in with two broods of these birds near Helvelyn on the 29th, and we each shot some, of which these are a portion.

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### PIED FLYCATCHERS.

Male and female, sent to me by James Cooper, of Carlisle, who had shot them in the neighbourhood in summer; he also sent me the eggs about 1889.

April, 1869.—Male, shot in our own garden.

April 28, 1870.—A Pied Flycatcher (male) at Briery Dene; it was very tame, flitting from bush to bush before us.

It is decidedly rarely seen in spring in this neighbourhood.

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### RING OUZEL.

I shot this Ring Ouzel near Fallowleys, 1st October, 1898, when shooting Grouse from Wallington.

I am always pleased to hear the wild clear and loud song of this bird, which is however monotonous, but very suitable to the situations in which you hear it. I consider it has about the same number of notes as the Missel Thrush, and if it breeds in the neighbourhood during the time it sings you very soon hear its note.

On the 1st of June, 1880, we went to the Roman Wall from Haltwhistle, and when my children were looking about for ferns they came suddenly on a nest containing nearly fledged young, just at the time when they are old enough to spring out of the nest but yet unable to fly. In consequence they came over the edge of the crags. I succeeded in catching them, and we climbed up to the nest, which was in a cleft of the rock, when I took each bird separately and without being on a level with the nest put it into the nest, taking care not to let them see me, and we had the satisfaction to leave them all apparently comfortable in the nest again. Not being able to fly, unless we had put them into the nest again they would probably have been forsaken by the parents, as they were scattered about, and they could not have again flown up to the nest.

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I have little to say about Blackbirds and Thrushes. As song birds they have no equals, both as respects melody and the length of time they sing. They are glorious birds certainly. We have often had them tame, and an old cock Thrush brought up and fed a young bird placed in his cage.

I have observed both species begin to sing in mild weather as early as December. I think they continue singing when they once began regularly in spring so long as they have nests, some of them I think breeding as many as three times during the spring and early summer. I find a Thrush began to build about the 8th of April; on the 11th the nest was apparently finished, but no bird near; on the 12th it contained an egg, on the 18th two, and on the 15th four; and the young were hatched on the 29th. On the 5th May I saw one bird feeding the young whilst the other was sitting on them, the one rising up a little to enable it to do so; on the 18th the young birds left the nest.

The Thrush probably has four young three times during the year, and if it succeeds in rearing one brood it would be sufficient for the species, the rest forming food for other animals.

This year (1881) is the only year I ever remember when the song of the Thrush has not been constantly heard in spring. No

doubt the winter has been very severe, and probably most remaining here may have been killed, still, if the species is migratory, why have none returned to breed. It never could have happened that almost all that were reared last summer were killed, but Nature seems to have taken in hand this year with a vengeance that these charming songsters should not become too numerous; even the few that are about seem rarely to sing, though they have nests.

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#### CROSSBILLS.

' Shot at Beaufront, 20th November, 1888, and given to me by the then Mr. Cuthbert. One red and two green birds. One of the latter has pale edgings to the wing coverts, perhaps a young bird of the year. He said they were abundant there at the time.

My children have often kept these birds alive for a length of time, and with ease. They seem to require less attention than almost any kind of bird. They never wash nor eat insects, at least ours did not, but they seem to be partial to fruit, buds of thorn, and other green stuff which the rest of the birds get. Having heard of their doing injury in orchards to the apple crops, which I own I could hardly credit from the relative size of the bird and the fruit, I have given ours Siberian Crabs to see what they would make of them. It is curious to observe the way by which they get out the pips. They leave the crab opened out in sections, but all in one piece.

I have not observed any continuous song of this bird, but a bright merry sort of note is often uttered.

It is interesting, if you offer them anything to eat, to see them open their beaks and twist the mandibles, so as to make the points (which in ordinary circumstances cross each other) meet, and enable them to hold what is offered them; and they seem to use the tongue as the Parrots do as a feeler.

This species is (when tame) very fond of green peas, and it is interesting to see how beautifully it uses its curious beak in opening the pods. When it makes a slit in the division it pushes its head in and forces open the two sides by opening the mandibles, and feels with its tongue and the points of the beak, which it uses like callipers to reach out the pea, which it then takes out, and with its marvellously well adapted beak takes out only the inside of the pea, leaving the skin.

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I have kept the following birds at different times tame, and I daresay some observations respecting the habits of each will appear in my book somewhere or other.—Pheasant, Partridge, Quail, Common Gull, Lesser Black-backed Gull, Greater Black-backed Gull, Blackheaded Gull, Cormorant, Swan, Wild Duck, Teal, Sheldrake, Sparrow, Yellow Hammer, Hawfinch, Robin, Common Bunting, Crossbill, Mountain Finch, Blackbird, Thrush, Siskin, Goldfinch, Lesser Redpole, Common Buzzard, Sparrowhawk, Magpie, Jackdaw, Bulfinch, Chaffinch, Eider, Pintail, Brent Goose, Bernacle, Kestrel, Curlew, Pewit, Heron, besides small foreign birds.

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The Common Bunting seemed to leave Holy Island about the middle of September; very abundant before that time.

The note of the Common Bunting may be heard at times during the whole winter. You hear its note, and on looking for it you probably see it sitting on the telegraph wires.

My children brought up these birds from the nest. They were easily reared.

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We have often kept Chaffinches, and I like them amazingly, they are such merry birds and sing so well in confinement. They are very fond of flies and other insects, and they agree well with other birds. We have had Yellow Hammers, Common Buntings, Mountain Finches, Goldfinches, Siskins, and Lesser Redpoles all living together. They all seem to require similar treatment in

every respect. They all like in spring to have branches of thorn, apple, and other green stuffs, grass, chickweed, &c., to pick amongst, and flies and other insects, when they can get them, even to aphides from a rosebud. My children have brought up most of these from the nest, and they all thrive better for having water to wash in whenever they like.

Chaffinches begin to sing very early in the year, often by the middle of February, and even during sunny weather when there is snow on the ground and during hard frost their spring-like note is heard.

Some years Mountain Finches are common enough. On Jan. 21st, 1862, and January 2nd, 1866, they were especially so. Some years none appear; why, I know not.

This is another bird my children have often kept for a length of time. They moult without difficulty. Those we have we got from Germans, who bring them over to this country. During moulting time they like green food much. They are also fond of the thick stalks of chickweed, which they take off in lengths of about half an inch. They easily extract green peas from the pods, and they are fond of cherries.

A wild bird killed itself by flying against our windows on the 26th Nov., 1875.

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#### THE HAWFINCH

Was always a favourite bird of mine, and for years we have had them alive. At the present time we have a cock and hen which are many years old. There is something very un-English like in the species, his very huge beak, curious-shaped secondaries, and when flying piebald appearance. I know nothing of its habits except what one sees in confinement. They are brought over occasionally by Germans. They seem easily kept; are fond of washing. They like buds and blossoms of trees and green peas, but I do not think they care for insects. The cock has a singular song, rather croaky, but I like it, and I have heard the hen also sing in the same way occasionally.

## TAME SPARROWS.

My children have sometimes brought up these common birds, but only in kindness, when they got the young from boys who had robbed the nests. A few years ago they had three, which they put in the greenhouse at night. One morning one got into a trough and was as nearly as possible drowned. It was at the last gasp when found, but by shaking the water out of it, blowing into its beak, and drying its feathers it gradually apparently quite recovered. They all grew up, two hens and one cock. They all became exceedingly tame and rested as often or oftener in the schoolroom than in the open air. The cock disappeared during our absence from home caused by sickness in the house. One hen died, probably in consequence of its serious accident, but the other hen lived several years, coming into the schoolroom each evening at the purposely left open window, and if it found it shut it tapped on the pane with its beak. In the following summer it paired with a wild bird and built its nest (outside but near the window and within reach) of materials taken from the house, and what was very singular that even when sitting it would come off its nest to be fed on the children's hands. It reared two broods one year and brought them to be fed at the window, and they would come just inside but were never tame. It came almost regularly each evening inside during the next winter and made a nest the following summer as the preceding, after which it disappeared. When it had young it would follow the children all round the garden whilst they sought for small caterpillars amongst the roses and other bushes and take them from their hands, and so soon as it had as many as it chose it flew to its nest and was back again for more immediately the young had got those taken before.

Now you may have too much of a good thing, and so it is with the Sparrows. No doubt they eat hosts of insects when feeding their young. I have even seen them catch the Humming Bird Sphinx, and a poor Yellow Underwing moth if disturbed during the day where they are numerous has a poor chance; but where

there is a quantity of ivy-covered houses or rocks they congregate some times in too great quantities, and then they play mischief with the crocuses in spring, and sometimes entirely strip the gooseberry trees of buds, and even eat out the greater portion of the flowering buds of the common thorns, Siberian Crabs, besides breaking off the shoots of lobelias when planted out, I think to make their nests of. However, being so numerous, they are very useful as food for other birds, the Gulls, for instance, and the Cormorants swallow them whole, feathers and all, if they have a chance.

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## SNOW BUNTING.

### SUMMER PLUMAGE.

Given to me by Mr. Seebohm, who brought it from the Petchora River, 1877. The other in winter plumage was shot by Charlie at Holy Island, February, 1877.

Sometimes seen as early as September. I shot one at Hartley, 21st September, 1886, and we saw an old bird at Holy Island, Sept., 1878.

The Snow Bunting is a bird which from its conspicuous plumage when mature it is most difficult to trace how it is acquired. The first or nest plumage will be alike in all. Probably the young birds undergo a complete moult as the Larks do soon after having acquired their first feathers. I see the young Skylark has nearly acquired its mature plumage by a complete moult by the end of August, and by this moult it acquires the entire plumage of the mature bird. Now if a plain bird like a Skylark thus acquires its mature plumage at once, why should not a conspicuously marbled bird like the present also do so? but it certainly does not, as in winter you often see large flocks with only a few white-winged birds amongst them. Now what I wish to know is, when these dark birds acquire the white wings. I should



think not until the moult the next autumn, but do these dark-winged cocks breed the following year, and before acquiring the conspicuous white-marked wings, and if they do not, it would be likely neither do the hens of the previous year, and in this case where do they pass the next summer whilst in this adolescent plumage.

The species is a most interesting one on account of the uncertainty of its appearance with us. When you know its note you generally hear the bird before seeing it, and on looking up you will see perhaps one or two passing high in the air with their irregular jerking flight, and uttering occasionally their cry, once heard and known not easily mistaken. When thus seen it generally I think foretells hard weather.

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#### SISKINS.

Male, Axwell Park, 22nd Jan., 1889.

Female, Broome Park, 29th Dec., 1888.

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#### GOLDFINCH.

Cumberland, July, 1840.

We have often had these two species as pets, when they lived with Chaffinches and other small birds, requiring the same treatment in all respects. There can be no doubt but that Goldfinches have become much scarcer than they formerly were. I think, however, a higher state of cultivation has a good deal to answer for, there being now so few commons, and consequently so much less seed of weeds for them to get. You cannot have all things, high farming drives away some kinds of birds and gathers other kinds.

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## TAME ROBIN.

On the 7th May, 1875, my youngest daughter took a robin from a nest in the garden to bring up, it being a week old. I had some doubt about her being able to succeed with it, but she wished much to try, and did completely. It lived more than three years, and appeared to be in perfect health. In July she took it to the seaside, fifty miles from home, and it was no worse for the journey. In the beginning of that month it had not moulted a feather towards getting its mature plumage, but at the end of the month, when we returned home, it had got its red breast. Singularly enough it appeared to have eaten or rather swallowed all its cast feathers; we often saw it at this work. It eats a considerable quantity of bird seed and garden soil every day, besides dry bread crumbs, pieces of nuts, and fruit, and wood lice, spiders, common flies, earwigs, and other insects. When at the seaside it was very partial to grasshoppers, none of which it has any opportunity to get now, but it delights to have moths, and even a Poplar Hawk Moth was not too large for it. One morning it swallowed whole a large Yellow Underwing and a Ghost Moth, having considerable difficulty in killing the former. It casts the husk of the bird seed and indigestible parts of the insects, and I attribute its good health and appearance to getting these substances. After having cast up these indigestible portions it picked the cast up portion and again ate it. When it is let out in the room, as it often is, it takes flies at the windows and from the ceiling by flying up to them, and on catching them it snaps its bill, making a much louder noise than one would fancy so small a bird could make. When it was young it was less particular, and would eat bluebottle flies, which it now refuses, and, what is singular, although it is partial to moths it does not care for butterflies, but merely pulls them to pieces. It always had a fresh piece of turf in its cage and a rough large stone to hop on to, and this kept its feet clean and its claws in good order. It was very pretty to see it hop down on to the stone, and with its head rather turned to one side look intently into the grass to see if any small moving things were in it,

and if there were any, as there were seldom not some minute insects or their eggs, to watch it pull them out and eat them. It went to sleep early, often about six o'clock. At first we thought it was ill, as it immediately if roused put its head under its back feathers again; but I presume from the length of day it merely gets tired. It was very partial to the water, and had a bath every morning, but it was also most particular about having the same depth of water to go into and also about having the stone put into the water to hop on; without it it flies over the water, and does not seem to like to trust itself in it, although it must know the depth of it quite well. In July it commenced to moult again, having cast several of its tail and large wing feathers, but it does not now swallow them, but it readily swallows small feathers of various kinds, shaft foremost, whenever offered to it, or bits of dust or other matters it finds when flying about the room.

This Robin lived three years. After the second and third moults its quills and tail feathers came partially white, but regularly marbled on each side. It is now here set up by Duncan, having died in good feather. It was a very great pet, and had been taken to Holy Island during our visits for three years.

I have observed that a few Robins appear at Holy Island about the 10th of September.

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The Quails we kept tame were two of these poor unfortunate birds which are caught in spring on migration to Europe to breed. If it is wrong to catch the wildfowl on the same errand it is certainly wrong to catch them. Unfortunately for the Quails they are at this season considered a delicacy and the rich will not do without them; nevertheless what is cruelty to one sort of bird is the same to the other. As these birds would have been killed and eaten I thought there was no great cruelty in keeping them alive, which we did for some years, but they were too small to let out of the flat and soft-topped cage we got made for them. They seemed most contented and happy little birds

under the circumstances, eating hemp seed principally, liking to have sand to rub themselves in, some fresh grass and at times they ate small worms. After some years they went wrong in their legs, but this might be from age. Birds caught as these are may be several years old before they are taken.

Having omitted to mention about tame Pewits when amongst the Plovers, may I be allowed to go back to them, and enumerate their eccentricities amongst the tame pets my children had some years ago? They are difficult to keep unless you have a walled garden. But what I wish to add, was the delight of these birds in having the contents of a net drawn through a muddy pool put into a shallow basin. The avidity with which they attacked the water insects was something curious to see, nothing moving came amiss to them, and they seemed to eat so long as ever anything living remained in the water.

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I have little to say about Larks. The Skylark sings delightfully often in cold and cheerless weather in spring, and at the same time reminds us summer is coming. It also sometimes sings in autumn. I have noticed it singing in the end of September.

I once had a Richard's Lark recently killed, which Mr. Hancock got from me. It was a young bird of the year, nearly through its complete autumnal moult, but still had a few of the edged feathers of the young bird's first plumage left, resembling those of the Skylark at the same age; but probably it had been hatched later than Skylarks generally are, as it resembled a young Skylark in appearance which had nearly completed its moult in the end of August, and the Richard's Lark was killed on Oct. 10th, in 1845.

The following is the description of the bird taken at the time:—

Richard's Lark, killed on the Town Moor, Newcastle-upon-Tyne, by a man named Davidson, October 10th, 1845, and from whom I purchased it the same day. Length from beak end to tail, seven and a half inches; breadth across the wings, eleven

and three-quarter inches; tail feathers, three inches long, composed of twelve feathers, the two uppermost ones brownish-edged with lighter colour, the next three on each side dark, and the two outermost on each side nearly white; wings when closed reach to two inches from the tail end; the tertials very long, and when the wing is closed reaching to the end of the primaries and covering them; the two middle tail feathers nearly a quarter of an inch shorter than some of the others; thigh, one and a half inches long; from the knee to the sole of the foot, one and a quarter inch; hind toe, five-eighths of an inch long; its claw, three-quarters of an inch long; from claw of middle toe to that of hind toe, two and three-eighth inches; and the letter I sent with it to Mr. Hancock, with a sketch of the bird, is as follows:—

“ My Dear Sir,

“ I have left you a Richard's Lark. I skinned it last evening except the head. The body is in the box for you to examine. I expect to be down with John on Tuesday. Will you put wires into the Lark where soft. It is in the moult, and was shot on the Moor.

“ Yours faithfully,

“ C. M. ADAMSON.”

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#### WHEATEAR.

When at Holy Island in 1879 Mr. Gainsford Bruce came there in his beautiful yacht. On Sunday, the 8th Sept., he walked with us on the Island, when he saw a bird and enquired what it was. It was this Wheatear, with its light-coloured head and neck. Next morning on looking for it Ethel and I found it near the same place and I shot it. It appears a young bird much moulting except the wings and tail. The head is half-white mottled all over, the new feathers coming are white. On the back the feathers seem edged with white.

These birds are very abundant in autumn there, but before the end of September they seem to leave entirely.

I saw three Chatterers at a game shop in Newcastle, February 8rd 1848, and on Jan. 22nd 1850 I saw one on the banks of the Aln when shooting from Broome Park in deep snow when looking for ducks, but on the opposite side of the river, and which I could not get to.

On April 16th 1851 one was killed at Wideopen.

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#### GOLDEN CRESTED WREN.

Given to me by the late Mr. Dixon Dixon in 1882, when he lived at Benton. The first bird I ever had set up, Mr. Hancock kindly did it for me.

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Though no one looks forward with greater interest than I do for the arrival of our summer residents I have not taken the trouble to chronicle the yearly dates of the species' arrival, as I hardly see what is gained by doing so, their appointed times for arrival and departure are so nearly adhered to each year, and with all our attention to them we can neither make them come a day earlier or remain a day longer. The Willow Wren is my greatest favourite as its cheery note is constantly heard after its first arrival, but it is not till we hear the other summer birds we can say genial weather is likely to last, even if then. So much has been written about these birds by abler pens than mine I will pass them over with few remarks, but at the same time I can fairly say no one notices the first song of each species with greater pleasure than I do.

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In 1876, April 8th and 9th. After a fine warm week many Sand Martins had come and were flying about Gosforth Lake. The latter day the wind suddenly shifted to north and remained cold with snow for many days. What would become of the Martins?

April 9th, 1850, I saw two Sand Martins at Prestwick Car when watching Wild Geese early in the morning.

I see I observed two House Martins at Benton at late as 8th October, in 1858.

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On the 14th August, 1852, at Rothbury South Forest, when Grouse shooting. I came on young Nightjars when the old bird rose, I thought it was a Merlin. Both old birds admitted of a very near approach when sitting on a rock, and were very anxious whilst I was near the young.

On September 12th, 1847, one was in our garden, and on September 18th, 1869, I shot one amongst turnips when shooting with Captain Noble.

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Now I come to the Wood Pigeon, and in a civilized country I say it is the grossest cruelty that these poor birds should be killed and sold throughout the breeding season. Where is the difference between starving the young Wood Pigeon or the young sea bird, or any other kind of bird which is now protected?

The Society for the Prevention of Cruelty to Animals professes to interfere with the killing of old migratory wild fowl in February, many of which do not breed till May; why do they not try to stop the killing of the poor Pigeons?

Their interference in the one case is absurd, their doing so in the latter would be highly meritorious. The whole legislation about birds and eggs requires alteration. In the first place, to set a good example, the rich should begin by not using the Plover's eggs as a luxury. Where is the difference as to cruelty between making a luxury of a Plover's egg or of a boy taking any other kind of egg? If the Plover's egg was a *necessary* portion of man's food I would say nothing; a hen's egg seems generally to be (you may almost say naturally) laid for his use, as so many of them were never laid to be hatched; it is quite otherwise with the Plover. The Plover's eggs should belong to

the owner of the land; let him take them or any others he chooses, he only then is answerable for the cruelty.

In some years very large flocks of Cushats are seen flying southward in late autumn; some seasons no large flocks are seen on the move.

Doves seem to sit about twelve days, and the young leave the nest in about sixteen days after being hatched: how rapidly they must grow.

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#### WHAT CONSTITUTES A PAIR OF BIRDS?

One so often sees even in scientific books the words pair of birds used when it only refers to two, that I would call attention to the subject. It may be right, but it seems to me often to convey a wrong impression.

If two birds come and build a nest and bring up their young or attempt to do so they certainly are "a pair;" but can there be a pair of Pheasants? or perhaps of Wild Ducks? The latter seem to pair for a short time only, as so soon as the duck hatches her eggs the acquaintanceship seems to cease, though one does sometimes see a picture with a wroth Mallard defending the young ducks from enemies, and also I have read pretty shooting stories of the old Mallard and duck having been shot or sprung with the young brood. Now at that season his lordship would hardly be distinguishable from a duck except he should speak when he rose, but if you find him he will either be alone or with some others similarly situated as himself, a selfish being, seeking his own safety by hiding amongst the rough herbage at a morass or lake side. One so frequently hears or reads of a pair of birds being shot from a flock, or otherwise, or even in a collection, which though they may represent a male and female, or even two of the same sex, never saw each other till perhaps they were put into the same compartment. Now to call these a pair seems to me to misrepresent their companionship altogether; why not



at once say two? one expression is as easily made use of as the other and certainly there is a considerable difference.

Two are a pair perhaps, but when speaking or writing about birds scientifically or historically, a pair seems to me to represent that the two had mated. Certainly, however, if you go to a fishmonger's and buy a pair of soles you get two, which he only placed side by side.

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### COLOUR AND MARKINGS OF BIRDS.

The plumage of birds seems to be generally suitable for their protection under various circumstances, as regards both old and young, though there are many phases exhibited which seem not explainable, probably however there is reason for the most contradictory displays some species show.

If we begin with the young of many species when first hatched we see how admirably their general unobtrusive colour protects them from observation either when hiding or only at rest. We see a small object running about which appears conspicuous enough—well we think it cannot escape us, and we go leisurely to look for it and seem surprised we cannot find it. It was a Pewit, a common subject for illustration and observation. If you keep your eye on it and run quickly to the spot you will most likely see it hidden in the grass, but should you fail to keep your eye on the exact spot the chances are you will not, the colour so well matches the ground on which it is and with which it harmonizes so as to render it invisible.

It is the same with the Curlew which is however often in rougher ground and requires more cover to hide it in consequence of its size. It is the same with the Common Sandpiper the young of which is pale in colour, as it sometimes has to escape observation by remaining quite still amongst pebbles at a burn side where there is no other material to hide it. The young of the Common Snipe and the Dunlin, often nesting amongst heather are darker, mixed with rich brown, but I have frequently

also found Dunlins not far from the sea having their nests on the short grass and scanty herbage, and although the young are rich brown, it is wonderful how difficult they are to see when very young, even when their colours differ from the ground on which they are, they remain so very still when any danger is near them.

In birds like the Pheasant and Jungle Fowl one sees at once it is not necessary for the cock to become unobtrusive in plumage in order to protect the young as they have nothing to do with them, and have only to look out for their own safety. Of these and such like kinds, the hens are much more like the colour of the ground, and in consequence more easily escape observation. The cocks are usually at all times wilder than the hens, seemingly being aware of their more conspicuous plumage, as is also the case with the Blackcock and Capercaillie.

Though the wild drake does not look after the young, he loses his beautiful and conspicuous plumage in summer and autumn, but this seems to be for another reason, which is to enable him to conceal himself when unable to fly, which he and the drakes of similar species are unable to do for the short time that their quills which are cast altogether, grow again, and which Nature has ordained they should be at the season when the swamps are thickest with reeds, rushes, and other cover, and also when there is abundance of food without the necessity of going to a distance for it. The Sheldrake and duck resemble each other. Nature may not have considered it requisite to make any difference in their appearance as the duck when sitting, is in a hole, consequently it matters not her colour for her protection, and so soon as the young are hatched she and they take the open sands and mud flats, where the grey colour of the young makes them unobtrusive, and it is very similar to that of the waders in winter when they occupy similar grounds.

What a marvellous thing it is that the Partridge, Quail, Corn-crake, and even a cock Pheasant can sometimes so completely escape observation even when the ground on which they are is

quite bare. Who has not got into the middle of a covey of Partridges on a bare fallow without being aware a bird was near, no doubt often by their having remained motionless? but sometimes they must have been running before a pointer on bare ground and still not discernible, so admirably is their speckled plumage adapted for their protection. I have seen a Corncrake in autumn settle on a very bare clean drill sown oat fallow quite near at hand and not be able to find it again with a good dog, one would say it was impossible for it to have escaped observation.

Some of the small foreign birds even in cages change the plumage most regularly with the seasons, some being very similar to some of our own birds at one season but gorgeously feathered at the other, and many of them seem to thrive well for a length of time in captivity. We have several which change every year. One always reminds me of a Grey Plover in summer, getting a complete black breast and sides of the face, but it is yellow otherways only instead of grey. Others vary from green to scarlet, and one from brown to orange and black, and even the shape of the feathers changes. One cannot see the use of all this, but probably if one lived in their native country a reason might be apparent, such as protection from some enemy at some portion of the year,

The difference of colour in the males and females of birds is an interesting subject but difficult to contemplate, as there are no rules to lay down which have not exceptions. Why in one species are the sexes alike and in another apparently nearly allied the reverse?

Take the Black Grouse and Pheasant. Well, these species are polygamous, and the males have nothing to do with the bringing up of the family, and consequently only have themselves to look to, and being conspicuous they do not themselves lead the young into danger; this may account for their difference from the females.

A similar reason would hold good with the Duck tribe. In early autumn both young and old often depend much on hiding,

as much as on flying, so long as the very rank herbage affords them shelter, but many of them by October get into full vigour of flight if not of plumage, and they are then able to escape danger and travel a distance to obtain food which perhaps is getting scarce in consequence of the colder nights destroying the insects on which they feed at such places as they moulted at.

In the Partridge and Red Grouse both parents most attentively bring up the young, and consequently it is of importance they should both be of similar appearance, and it appears to be so generally with birds where both sexes are so engaged but not always, as in the Thrush, both are alike, but they are not in the Blackbird, and this discrepancy seems to be difficult to account for in two species so nearly allied in many respects.

It is very singular how regular Nature is in her operations. Perhaps nearly the whole of each of the various species of birds such as Pewits, Rooks, Partridges, Thrushes, Wild Ducks, Snipes, and other birds in a neighbourhood, if *left to themselves*, lay their first eggs on or about the same day, at any rate far nearer together as to time than is supposed; you may find out of the way early times for finding Wild Duck's eggs, but these may have something to do with domestication or semi-domestication, but every species is a mystery. How do Shovellers find a reedy pond the only one in a large tract of country where they nest each year, and probably are never seen in the neighbourhood migrating or otherwise except at the very pond? and many other species as the Water Rail, what takes it to a reedy pool, and in a country drained as England is, why does it continue to come to such a country, and when it arrives how does it know where a suitable place for it can be found?

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#### THE COLOUR OF BIRDS' EGGS.

Why has nature taught the Little Tern to lay its eggs amongst pebbles about the size of its eggs, and where they are so difficult to see? and why has she not made the other species as cunning,

some of them often laying their eggs on the grass or other scanty vegetation where they are readily seen? the very eggs look as if they were spotted so as to be placed where they would escape observation amongst stones and yet the bird lays them on the grass. Some birds lay their eggs in holes in the dark, these are often white, but being hid it does not appear necessary any particular colour should be selected. Why are the Thrushes' eggs so beautiful, and at the same time so hidden in the deep well plastered nest?

The Little Tern for some cause or other seems to have deserted Northumberland, formerly it bred on some parts of the coast, where perhaps it was annually disturbed and its eggs taken. I am not aware of its appearance here now except perhaps as a straggler. I fear the Roseate Tern has also disappeared from our coast.

Ducks lay greenish eggs, their colour is not of so much consequence, as when the old bird leaves them they are well covered in the down plucked from her body, and which nature has at the season especially provided her with for the purpose.

The Cormorant's eggs when first laid are pure white, but they soon become stained from the bird's feet, the seaweed the nests are made of, or by some other cause—this renders them less conspicuous when left uncovered by the birds to Gulls and other marauders flying over, and it may be for this cause they get so stained. The same with the Grebes.

The Heron lays a bright greenish egg which must be very conspicuous from above; and the Wood Pigeon's eggs how easily they can be seen, even sometimes from below, the nest is so thin, and being white must be very easily seen by birds flying over—they cannot be white for protection. The eggs of the Water Hen and Coot are very much the colours of the dried sedges the nests are usually composed of.

In Mr. Hewitson's second edition of his work on birds' eggs he figured a Golden Eagle's egg from my collection. It was sent me by Mr. Gilchrist, of Ospisdale, in Sutherland, with other

eggs, amongst which were those of the Peregrine Falcon and also the Black-throated Diver. They were procured the year the late Mr. Selby took his tour in Scotland, and I had to send him one of the Falcon's eggs which was also sent to me for him. Eggs in those days of the Black-throated Diver were very rare in collections, and the one sent to me was certainly the first in this neighbourhood. Mr. Hewitson also figured the beautifully-marbled egg of the Common Buzzard from my collection; this was procured from a nest found near Gorton Loisk, Loch Strivenhead, Argyleshire, and was given to me by a son of the late Sir John Fife, on whose property it was found. I have had and seen many Buzzards' eggs since, but I do not remember ever seeing one so highly coloured. It much resembles a well-marked Golden Eagle's egg. I have Mr. Hewitson's letter asking me for the loan of the Eagle's egg, which is as follows:—

Post Mark, April 15, 1848.

“Tynemouth, Friday.

“My dear Sir,

“If you will do me the kindness to let me make a drawing from your Eagle's egg I will call for it on Monday, when I mean to be in Newcastle, and will bring a box in which it will travel down to Tynemouth securely, and I will return it in a day or two.

“I will call at two o'clock, and if you cannot conveniently be at home you will perhaps leave it out for me, and much oblige,

“Yours very truly,

“WILLIAM C. HEWITSON.

“Charles Adamson, Esq.,

“Westgate St.,

“Newcastle.”

I have also one of the Dunlin's eggs Mr. Hewitson took his figure from.

Audubon was a friend of my father's, and in 1834 he gave him the letterpress of his second volume, which I have with the others, in it is the author's autograph, as follows:—

" To John Adamson, Esq.,

" &c., &c., &c.,

" With the best wishes of his faithful friend,

" JOHN J. AUDUBON.

" Newcastle-upon-Tyne,

" Dec. 17th, 1894."

About that time he was desirous I should accompany him to America as I was so fond of birds, but my father objected to my going, as he considered such a journey at my age would have entirely unsettled me for the remainder of my life. As I have mentioned before he then gave me eggs, amongst others the Great Northern Diver and the Spotted Sandpiper's, the latter I still have; one of them was also figured by Mr. Hewitson in his work.

Many years ago (about 1850) Mr. Howard, of Corby, enquired if I could tell him if it was possible to get any Dotterels' eggs, in consequence of a friend of his (Lady Cust) wishing to have one, and I having recently got some from Cumberland I gave him one.

The following is a copy of Mr. Trevelyan's letter sending me the nest of Woodcock's eggs before referred to :—

" 19th April, '89.

" My dear Sir,

" Excuse haste, as I have merely time to pack up and send the eggs which you wished.

" Please to return box.

" Yours ever faithfully,

" R. TREVELYAN.

" C. Adamson, Esq.

" With box to be returned."

## ON THE NOTES AND SONG OF BIRDS.

It must have struck some of those who take delight in studying and observing Nature's works the resemblance there is in some of the notes of various kinds of birds of totally different descriptions.

The Thrush sometimes has a note resembling that of the drake Teal.

The Starling has many very dissimilar notes, one of which strongly reminds one of the Curlew, and also sometimes of the Pewit and Golden Plover; and in spring its song sometimes reminds me of the twitter of the House Martin, the Wagtails, and also the Quail.

What a singular note the drake Teal has, and how unlike that of the Common Wild Drake; the drake Wigeon's cry how unlike also to the duck's quack.

The note of the Turnstone seems often similar to that of the Green Linnet, and the three notes of the Redshank I think resemble the three notes sometimes uttered towards the end of the song of the Thrush.

The Wren's note resembles that of the Water Ouzel.

The *te weest* of the Green Sandpiper recalls to mind the note of some common inland bird; is it not the Green Linnet also? There are many other similar instances if one could remember them, and had taken more than mental notice of them at the time, but which have escaped one's further attention until one hears it again, or perhaps for ever, but which have also probably occurred to others.

There is a considerable resemblance between the song of the merry Yellow Hammer and the Common Bunting. Then again how different are the notes sometimes of nearly allied species, those of the Willow Wren, the Wood Wren, and the Chif Chaf, for instance. One never tires of the lively note of the first, and how glad one is to hear it in April telling us spring has come at last. Under some circumstances its note sometimes resembles



that of the Chaffinch, and I have small doubt but that there is some mistake when one hears of the too early arrival of the former bird.

The note of the Wood Wren is rather monotonous, somewhat resembling that of the Yellow Hammer, but to my ear not nearly so pleasant; and then the little Chif Chaf's note is not in the least musical, but still one likes to hear it, as it is even a more early informer of spring than the others are.

I like to hear the song of the Jay, and even the Magpie (our nearest representative of the Birds of Paradise), which really sometimes sings, as we had a tame one which certainly did so. These birds' notes vastly increase the pleasure of unselfish people in their country rambles in plantations, where they ought to be and would be if they were not so unmercifully and ungenerously destroyed at all seasons alike.

What interesting and loud notes the Greater and Blue Titmice have, and which one often hears at all seasons, even when the trees are leafless and other kinds of birds are generally silent.

In different species nearly allied one expects to find similar notes, and we do in the Wagtails, the yellow, pied, and grey. If we hear a note of one of these we know at once it is a Wagtail, though the bird is unseen. I only allude to these three species of Wagtails, which certainly are distinct. Whether we have more species than these, a more scientific naturalist than I am may give a more decided opinion, but I think it will be his opinion only, and hardly a decision of the fact.

On the arrival of the yellow one, which is most strictly a summer bird, one often has one's attention called to it by its unmistakeable note, when the bird is too far off to distinguish, unless your eye catches its peculiar undulating flight. It seems to care less about water than either of the others, though you often find it about the edges of a muddy pond. I have noted its arrival as early as 28rd April.

The Grey Wagtail delights in rocky streams, and although not at all times at the same places is rarely absent long, but I think

I do not remember having seen it during very severe frost and snow if of long continuance. It is a pretty sight to see it with its young on their first leaving the nest, which they do about the first week in May; the old birds seem so anxious for the safety of their brood, and when they get scattered they use every endeavour to get them together again until they are able to take care of themselves. At such times the old birds alight in the top branches of trees, under which the young are sitting still (I think they take the young into the trees for safety), the old birds constantly moving their tails and making themselves conspicuous by the noise they make in their anxiety. This species rarely leaves the burn sides. The young birds are of such indistinct yellowish-greyish colour, they are difficult to see except when the old birds take them flies or other insects.

I have seen the Pied Wagtail in our garden as early as March 6th, 1868. It is a pretty active bird, sometimes occurring you may say unaccountably and as if by accident only in winter. It is a regular summer resident, caring less about water than the grey species, but it is often seen at ponds or river sides, but not inhabiting exactly similar places as the the grey does. This bird is often seen about houses, catching flies on house tops and such like places. The young are often very numerous on the coast (particularly if any herring curing is going on) in autumn, catching flies, and evidently congregated there just previous to their ordinary winter migration.

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As I have before remarked in some very different kinds of birds, when casting their feathers, those being cast as well as the down on some kinds of young birds, are pushed out by the new feathers coming being attached to them seemingly by the quill portion during and after the time the undeveloped feather remains in its covering of scurfy skin, but much longer when the down only is pushed out, sometimes after the feather has acquired its full length. I have seen the young Pewit and the Oyster Catcher with the down on the end of their tail feathers quite

and of the Chaffinch, and I have small doubt but that there is some mistake when one hears of the too early arrival of the latter bird.

The note of the Wood Wren is rather monotonous, somewhat resembling that of the Yellow Hammer, but to my ear not nearly so pleasant, and then the little Chiff Chaff's note is not in fact musical, but still one likes to hear it, as it is even in early summer of spring than the others are.

I like as near the song of the Jay, and even the Bl. Jay, as any representative of the Birds of Paradise, sometimes song, as we had a tame one which did. These birds most readily increase the pleasure of a walk in their sunny haunts in plantations, where they are not so numerous, and would be if they were not so numerously destroyed at all seasons alike.

There are many and good notes the Green Warbler, and which one often hears at a distance, and these are earliest and other kinds of birds.

In different species nearly all the birds are in the Wood Wren, and we hear a note of one of the birds, and though the bird is not in the wood, it is a Wren's, which is a more species than these.

One may give a more decided opinion of opinion only, and hardly a decision of

On the arrival of the yellow summer bird, one often has one's eye mistakeable note, as the bird is less your eye, and one is less about to find it about the wood, and as

It is not common to see birds of the preceding plumage until all ordinary traces of the old plumage are gone.

It would almost seem as if they continued through summer. No sooner have they acquired new plumage, and some of the feathers not come to the brightest of their plumage, the seasonable advanced to its highest pitch, it would appear to do so the feathers after such time renewed come it would seem the winter plumage is begun again before that of summer is often scarcely at-

Others a bird gets are generally much smaller and those of the old bird in winter, and as in many

I have seen of these are retained it seems curious, as one of the young bird would be less able to repel the cold than the old bird, which has during autumn completed its moult and has got a dense clothing by and for winter. You more particularly in the Ducks and Geese, the young being much thinner-feathered till they get their full plumage which is not completed till late in the following year. I have seen the young of the Pink-footed Goose in the end of October still in its first small feathers, only a few of the mature larger feathers appearing on the flanks, and I have a Grey Goose of the preceding year shot in April still in its first moult. The old Brent Geese have completed their moult before I was here, the young birds being still in the moult and immature, and retaining all the wing feathers of the yearling. The same with the Wigeon. This has reference to the body giving warmth chiefly, as the wing feathers, except the primary, are not changed till the general moult the following

It appeared to me singular how new feathers on a bird grow when they are required. If you take the skin in full feather and examine it inside there does not

long, some time after they have been able to fly well, and as I have already remarked I once killed a young Sanderling in August, which had undoubtedly flown from the Arctic regions, with the down still attached to one or two of its back feathers. The down apparently gradually wears off when of no further use to the bird. In the young of the Black Grouse in August and September you see many of the growing second feathers of some length yet in the shafts attached to those of the young bird, particularly about the head, and pushing them out, showing a continuous growth.

A tame drake Pintail we had whilst acquiring its full plumage in winter when moulting on the breast, the new white feathers those of the full plumage were pushing out those of the dark plumage, and which were still attached to them. I have also seen an old duck Teal in September whilst recovering its breast feathers, after having sat on eggs, when the new feathers in their undeveloped state were pushing out the few remaining old feathers. This arrangement seems caused by Nature to prevent the birds being left too naked till the renewed feathers were long enough. This bird looked smooth in the breast until the plumage was examined, when the junction of the worn feathers left and those renewed was easily to be seen.

There seems little doubt but that a bird's feathers last it as long as they are sufficient for its economy, and that when it requires them renewed, whether in spring or autumn, it gets them. If in spring in the wading birds they come rich in colour, as the breeding bird's plumage. If in autumn they come plainer. If a bird has moulted completely in autumn it is more than probable its feathers will last it till the following autumn, perhaps changing colour in spring; but if a bird of the year has merely moulted partially its small feathers in autumn, it is probable it will moult more in spring and during the following summer, getting its complete winter clothing by October. The old birds begin to get their summer plumage first, as I think you never find a bird of the year before begin to get its summer plumage until the wing coverts have been worn or changed into their winter state.

By this I mean that it is not common to see birds of the preceding year getting a summer plumage until all ordinary traces of the young of the year or first plumage are gone.

In some kinds of birds it would almost seem as if they continued moulting all through summer. No sooner have they acquired a summer plumage, and some of the feathers not come to their full length as the brightest of their plumage, the seasonable change having advanced to its highest pitch, it would appear to decline, and as it does the feathers after such time renewed come paler again; indeed it would seem the winter plumage is begun to be acquired again before that of summer is often scarcely attained.

The first feathers a bird gets are generally much smaller and thinner than those of the old bird in winter, and as in many kinds, many of these are retained it seems curious, as one would think the young bird would be less able to repel the cold of winter than the old bird, which has during autumn completed its moult, and has got a dense clothing by and for winter. You see this more particularly in the Ducks and Geese, the young birds being much thinner-feathered till they get their full plumage, which is not completed till late in the following year. I have seen the young of the Pink-footed Goose in the end of October still in its first small feathers, only a few of the mature bird's larger feathers appearing on the flanks, and I have a Grey Lag Goose of the preceding year shot in April still in its first feathers. The old Brent Geese have completed their moult before arriving here, the young birds being still in the moult and imperfectly clad, and retaining all the wing feathers of the yearling. The same with the Wigeon. This has reference to the body feathers giving warmth chiefly, as the wing feathers, except the tertials, are not changed till the general moult the following year.

It always appeared to me singular how new feathers on a bird do begin to grow when they are required. If you take the skin off a bird in full feather and examine it inside there does not

appear to be any substance from which a new set of feathers could begin to come. I presume there must be some process perhaps somewhat similar to the renewal of teeth in animals, or perhaps nails or claws, but there appears to be this difference. In the former case the teeth are renewed once in the lifetime, and in the latter the nails and claws continue growing in most instances, but are kept in order by the constant use of them by the own r; but yet in some cases the nails are I believe cast, as in the Grouse, and renewed periodically, in almost all other cases the bird or animal has the power to have them renewed in case of accident only. It seems probable there may be some analogy to hair, but even this sometimes seems to be of continual growth as in man, and at other times there is a renewal with the seasons in animals, as we seem to observe the hair cast entirely. I am not sufficiently learned as to know whether the embryo of the hair of animals is secreted in a similar manner as feathers in birds. It would appear from looking at the inside of a skin of a bird beginning to moult that the young feather commences to appear inside the skin, as you see marks generally blue, but sometimes white in white birds, containing what will be the feather apparently within the skin itself. This appearance is sometimes partial, but at other times nearly the whole skin is in a like condition when immediately previous to the general moult of the bird. What is it that causes this state? It does not appear to be the want of new feathers only, because you find one bird moulting whilst the old feathers are apparently quite serviceable, and in another bird before moulting the feathers are quite worn out. You see sometimes the tertials of a Sandpiper worn almost to the shaft. Nature seems to have provided some substance in the skin by which in case of the accidental loss of some feathers the bird is enabled to renew a portion of its feathers at any time they may be required, and that quickly.

The change in the colour of the plumage of some birds with the seasons is most difficult to account for. How those clothed in white or grey appear brown or red in so short a space of time

as they do is wonderful, and though the fact is so constantly before us we are unable to account for it, and I daresay few of us think of it, or care about it, or attempt to account for it; and it seems equally curious some small English birds once having had a brilliant plumage in confinement certainly do not acquire it again (though they may in a wild state, but this it is now supposed they do not), whilst some small foreign birds get their brilliant and plain plumage in confinement with great regularity with the seasons.

When one once begins to think of all these matters and attempts to put one's thoughts into writing one often gives up in despair, as it seems impossible to dwell on the subject for a sufficient time. One theory seems to offer itself to the imagination, but it cannot be carried out, as some illustration one would use for the theory probably instead of furthering it upsets it altogether, and leaves the whole matter in confusion, hopeless, and more unaccountable than ever. So it will be with man's endeavours, and so I think it was intended to be by wisdom beyond his comprehension. If we could find out the Creator's reasons for many of these matters the subject would lose its fascination. For man to attempt to lay down rules for either genera or species is simply presumption. He may have an opinion, but that is all, and of what value is it?

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SOME REMARKS PERHAPS IRRELEVANT TO MY BOOK'S NAME.

On entering an ancient cathedral I have sometimes felt struck with awe at its grandeur, and wondered at the power given to man to conceive in his mind such an edifice, particularly at the time it had been built. Such power would seem hardly human, and I have wondered whether the original idea was a dream, and supposing it was how was the idea carried out; it could only be by the division and subdivision of labour, and that under the guidance of many minds acting together and of no ordinary quality; but such works sink utterly into insignificance when



we contemplate those of the Creator. Can we grasp even an idea of the sun and its requirements for a day, and yet it exists for ever. Then again consider our world only, setting aside space and the stars, the separation of the solid from the liquid, and the power by which it is upheld. The vegetation in both, and the living things, and the use of both of them when overwhelmed for the purpose of altering the character of the solid portion, and the reasons of their use. When we consider these matters man's limited power is apparent, the Creator having formed the whole of the material, and allowed man to have the discretion to manipulate it only for his purposes.

When we were told to consider the lilies of the field what did the injunction mean? Did it not mean that man's works were not to be put in comparison with the Creator's, and that the latter were the more worthy of our attention, wonder, and admiration. We are told on the highest authority that even the King in all his glory was not arrayed like unto one of them. Though the emblem was called a lily it meant any flower that might be met with as Nature originally created its kind—not a variety raised by man's care and attention, and which to keep it as such required his care, but the simple flower, the Creator's own work. Surely this was and is a lesson to teach us to think little of ourselves and our works, and to give glory and praise to the Creator by admiring and wondering at His productions, which simply are, were, and will be perfect as and when created, but about whose creation man is as unlikely to know anything more a million years hence than he has ever yet known.

I have often been surprised at many of our petty and mean ideas of what is occurring according to Nature's rules in this world in which we live; many of us fancy it is or would be a world of peace to every living creature except to man, and that it would be to him also under certain conditions, and that he alone is troubled in consequence of his misdeeds, but how great a delusion.

Sometimes on a fine day one is apt to stroll over the country alone to contemplate, and one really is led to believe all is peace,

as nothing happens to call one's attention from such a conclusion, everything looks so serene and lovely, but how different is the reality when we seriously consider what is going on. Every living creature has to be provided for, and consequently instead of nothing but peace there is nothing but war, but the war is generally waged so systematically a casual observer overlooks it altogether unless some particular incident excites his attention. Why, one may say, quadrupeds are constantly devouring birds, birds are devouring quadrupeds, birds are killing birds, quadrupeds are killing quadrupeds, birds and quadrupeds are killing fish and reptiles, fish are devouring fish, all are killing insects, and insects are destroying each other by millions; and yet the supply of each and every kind is infallibly kept up so long as circumstances require it, apparently without the slightest hitch, everything is so regular and methodical. In spite of all this we frequently hear of some over-sentimental persons dilating on the cruelty of anyone having killed a few birds or insects, as if there were not enough of them in existence and the few could not be spared.

With respect to the likelihood of any kinds of quadruped or bird becoming extinct by being killed by man (except in places limited in extent, as for instance some of the quadrupeds have been which formerly inhabited England and Scotland), I think we may dismiss the idea. In this country, thickly-populated as it is, and where all lands are preserved for the game, and where so many men make their living you may almost say by exterminating all animals usually called vermin, and when during a snowstorm every foulmart, or such like, you may say, insignificant animal shows where it is, and in consequence is so easily trapped, it is wonderful they have not been exterminated long ago. If such a war of extermination goes on much longer there will not be a badger or perhaps an otter left in the kingdom, difficult as it might be to exterminate the latter, yet it might be done; but when we consider the length of time ermine and sable skins have been so highly valued, if it were possible for man to exterminate them he would have done so ere this for

their price. The fact is the tract of country inhabited by such species generally is of such an enormous extent, and often the country inhabited is so barren and so thinly populated, they cannot be exterminated, in consequence of Nature having determined they should not be unless she was willing. The hunters even so soon as their prey becomes scarce in one locality must change their ground, as it would not be worth their while to stay, as they would be starved unless they succeeded in getting a quantity. So soon as the animals become so limited in quantity as not to be worth looking after the hunters leave the district, and the animals have a rest and again increase. So it is with the birds. A few years since people thought Grebes would become extinct, in consequence of the fashion of wearing their skins as trimmings. How great a mistake! No doubt quantities of these birds were killed where they came to thickly-populated places, but at the same time each species was very widely distributed in thinly-populated countries, and as a hunter could not get a sufficient quantity to make it worth his while to go in search for them he would cease to take them. The fashion has in a great measure died out, leaving a sufficient stock of Grebes of each species for all Nature's purposes. I do not say these unfortunate birds have not been killed off at particular pools in England, but the owners of these pools should have had the power and they should have exercised it so as to prevent their destruction.

I still feel confident if landed proprietors had servants they could depend on, and they themselves wished to protect the birds on their own properties, no what is called "close time" would be necessary, as a sufficient stock of the various kinds of birds would be reared on their estates to make up for casualties on lands which were not looked after, more particularly when it is taken into consideration that on their estates generally they have annihilated or nearly done so the non-migratory animals of prey (birds and quadrupeds), the natural enemies of those kinds we are sentimentally wishing to be preserved. I think the close time has to this extent done good that it has prevented idle

fellows prowling about the country with guns, and I should like this put a stop to, not only in breeding time but at all times, unless some permission from some one authorized to give it was obtained.

The weakness of man's power would be shown if he were to endeavour to exterminate some what he may consider a noxious insect. Could he exterminate the common fly, the earth worm, or even the flea? It is marvellous so many insects are in existence as there are when we consider the amount of land in cultivation. In a single field ploughed out what an amount of destruction there must be, almost every grub and caterpillar in it destroyed, not only by being thrown on the surface but by being there found exposed by the birds and devoured. Consider the destruction of insect life when a fire occurs on a prairie. I have heard my son describe the effect of a firing of the grass in Burmah, and the quantities of insects trying to escape as the fire approaches them, and the birds flying almost into the flames to secure the locusts and other insects thus disturbed. One of Nature's rules one would almost expect to be that nothing should be lost or wasted, nor perhaps is it entirely. I remember nearly fifty years ago staying on the Farne Island with old Darling at the Lighthouse for a few days in June, and one morning he came in with a number of Terns' eggs. Now he was fond of the birds and did not like their being molested, and I was rather surprised at his having the eggs, however he soon explained that he had taken them as the birds had laid them within reach of the next tide, which being a spring tide would have destroyed them. He was even jealous of showing us where many of the birds' eggs were.

When we talk of the cruelty of taking a few birds' eggs do we consider that sometimes Nature appears to be very cruel herself. If she were not we would not have to regret the loss of young Partridges and other valuable and invaluable birds every wet season, and even in a dry one a sudden severe thunderstorm will cause the whole course of a large river to be flooded at the very time the birds have eggs and young, and in conse-

quence every Sandpiper's eggs and young and those of very many other kinds are swept away. Are we to suppose the old birds regret those casualties? I think it unlikely, and more probably the old birds so soon as the young or eggs are out of sight they do not miss them then, I cannot call it forget them, as we can form no idea of a bird's memory.

Now I remember well another instance of something like a similar occurrence of ignorance on birds' part. Once when I was at Rockcliffe Marsh with Cooper we came to a very large tract of low-lying ground, covered with short grass, on which many Oyster Catchers, Pewees, Ring Dotterels, and Dunlins ordinarily bred, a high tide had covered this, and the consequence was every egg and young bird were destroyed. We found many nests with the eggs in them. One might ask why was this what we ignorantly might call or suppose to be waste? Again, who has travelled over extensive mud flats and sands without observing the course of a channel having exposed or covered up too deeply a whole bed of shells and caused the destruction of the living creatures, the living portion of those exposed certainly forming food for the birds, and the shells when sufficiently broken up by the action of the waves helping to form the sands of the ocean, those covered up probably remaining to be turned into fossils should their covering not be again taken off and expose them to be removed by the action of the water, when they would also in time get broken to pieces and also assist in making sand, probably at some future time to be turned into sandstone. If it were not for this continual apparently useless destruction and displacement the world as it is could not go on.

I am no radical, and would be sorry indeed to have any change of importance in the laws restricting the possession of land or the right of the owners to deal with it and what is on it, including the birds, as they please, but I am dead against stringent laws prohibiting entirely a man from having a bird in his possession at any season he may wish to have or which he got on lands on which he had liberty to take it. If such a law exists it should be impartially carried out, but you would scarcely

find anyone who would have his servant fined for obeying his orders to kill Owls, supposing he chose to have them killed, which probably many will still do with impunity, as I consider they ought to be allowed to do if they wished on their own domains.

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ON SOME OF THOSE KINDS OF FOREIGN BIRDS WHICH HAVE BEEN  
DESCRIBED AS HAVING VISITED ENGLAND, AND ON OTHER  
MATTERS RELATING TO BIRDS.

I would ask have many of these really come from choice, or several of them ever come except by the invention, either intentional or otherwise, of persons who have recorded their appearance from a desire to become conspicuous as observers of wonders? and who have written merely meagre accounts of their occurrence, as if such notice, even if correct, without the season of the year being given, taught us anything. The only use in having such instances recorded, if and when they happen, is to help us to try to trace the movements and migrations of the species.

Many books would be considered uninteresting unless they contained accounts of new species having been added to our lists, and the writers are too often on the lookout for something startling and exciting, to make what they call their books take. Probably those which do not take are sometimes the more likely to be the most true. Frequently in works on Natural History instead of the writer sticking to his favourite class he goes extensively into the subject, and endeavours to do too much. It would take a lifetime to study our Hawks alone (not those of the world), even this could not be done satisfactorily in our own island, and never could have been, as many of the species always were migratory only; not even to acquire some little knowledge of their changes of plumage. If this is not so, how is it that no one seems to understand the light and dark varieties of say the Peregrine Falcon, and the reason of the varieties. I do not

know any work where anyone has really yet grappled with this subject, and I believe less is known, certainly quite as little as was known hundreds of years ago. Mind I do not consider the question an easy one to solve. A great many persons I daresay perhaps consider all is known, and give themselves no more trouble—how far from the real state of the case. It would take a man a lifetime to follow the Peregrine alone into the various parts of the world it inhabits, and even then he would be unable to say whether he had seen one or more species. I would be inclined to consider all birds closely resembling Peregrines, wherever found, to be one species, unless there was some constant and conspicuous distinguishing marks or other differences which showed a decided alliance to some other species—the same may be said with reference to other classes of birds. A Chaffinch is a Chaffinch, though varieties may be local and there may be constant local varieties, so with the Dunlin. As I have elsewhere remarked there is not a rule without exceptions. If there is a constant and permanent difference in marking between a species on one continent and on another, as appears in the Teal in Europe Asia and Africa, and those in America, it is a difficult problem to solve, and I do not see how it can be decided; so it is with the Dunlin, where a marked difference in size appears between those in the Old and New Worlds, but where you meet with variety in size and colouring of plumage, as in the Peregrine Falcon, in the same country, to separate the varieties into species appears absurd. I find I am rather getting away from my subject, but one cannot help writing what comes into one's head, especially when one is writing on a favourite subject. Now in looking over catalogues and other books one often notices the occurrence of birds with some sort of an account as to how they were observed or how obtained, and I must say often there appears truth in the account; I must also say that there nearly as often appears the reverse, whether accidentally or intentionally I cannot presume to say, but I hope the former.

In the accounts of birds of districts, as in other similar works,

there are many observations, perhaps not of the writers, that strike me as hardly correct, and would have been better omitted. There are many errors in the descriptions in many early works, and which are handed down by later writers, for instance, where it is stated the Little Stint and Pigmy Curlew are winter visitants and driven here by the severity of the weather. Nothing is less like the real state of the case. In each of these species and many others the young merely pass in early autumn after leaving the places where they were bred, and being very impatient of cold they only remain a few days, after which they retire altogether, and are never seen during winter on our shores. One sometimes reads accounts of rare species having been met with, such as Shinz's Sandpiper and the Pectoral Sandpiper, and such as these. Now, to speak plainly, is there any one in England at the present time even slightly acquainted with these species in the different states of plumage they acquire at the different seasons? I doubt it; and under these circumstances can the notices of their occurrence always be relied on.

How odd it seems to me that some scientific men can describe and determine a species from a few *fossil* bones only, but yet be unable to determine what constitutes a species when he has bones, flesh, skin, feathers, or hair, and all. I know that a book if written on a similar subject if it only contains what a writer knows from actual observation would be too concise, still it would be better, in which case the writer is answerable for only what he himself states and not for the observations of others. When on this matter I cannot help mentioning a rather special case. A friend one day mentioned to me that a man had sent him skins of the Spotted Sandpiper from his neighbourhood, and he asked me what I thought of them, I at once said *American*. This man my friend told me said they came every summer. I told my friend I would give five pounds a piece for them recently killed if obtainable. Then he seemed inclined to go over himself but did not, however some little time afterwards he asked me to come and see a Spotted Sandpiper with the body in it



which had been sent him. The sender wrote stating he had shot the bird which had fallen and he could not find it, but on going several days after he had found it, but it was useless, as the weather was hot, it being in summer. The bird had full-sized maggots in it, but instead of being tender and coming to pieces it was as tough as leather, and the feathers all firm in the hard skin, and it had not the smell of a recently-killed putrid bird. I again said unquestionably American—that is it was an old dried bird with the flesh in which had been wetted, and either flies had blown in it or more likely the maggots had been purposely put on the softened flesh. The following year the man said the Act of Parliament prevented him getting any more Spotted Sandpipers, but I should think he had enough of them.

Generally, if a species is erratic in its flight, and does by accident visit us, before many years elapse it will be followed by another or others. If no others come the species had no right to be included as British, as the probabilities are it did not come, I may say naturally. Another instance I have heard of a bird said to have been shot on the coast; this was an Indian land bird; I was told it was really found floating in the sea, and it was questionable whether there was anything at all but feathers and skin, and whether it had not been an old skin only thrown away, and probably gone down some river into the sea and been washed up.

A bird is sometimes sent to a stuffer, he sets it up, and perhaps sells it, the owner enquires for it, and another is substituted and sent home (quite another bird), this remains in the collection for some years, some one sees it and observes it is a curious bird, the history of the capture is quite correct, and the bird one perhaps of rather uncommon occurrence, but in reality it is very different from the one in the collection, and which probably forms part of another collection in a very different locality. Some bird stuffers are curious men for inventing things and so are many gamekeepers.

In my own case I would at any time have given twice as much for a bird recently killed as I would for a skin, because it gave

me the pleasure to observe its form, and the colour of its legs, beak, eyes, and the arrangement of the plumage, besides the opportunity of knowing the sex and the food of the bird. What is easier than for a man having a stuffed bird resembling the recent one, which perhaps he desired to convert into money, he saves himself the trouble of stuffing the recent one, gets a good price for it, and substitutes his own, and thereby makes a good bargain. There are good men and bad in all trades, but I fear our legitimate list has been greatly enlarged by unfairness, and that many reputed captures are not sufficiently authenticated. Much doubt must exist as to the occurrence of old recorded species, as probably the recorder did not himself sufficiently know them, and in addition to this the birds were probably known by different names than those now in common use.

You can sometimes detect discrepancies, as for instance where Ducks are reported as seen at a distance in autumn, when the old drakes (by which the species might be known) would be in their inconspicuous plumage.

I think it very unlikely that any kind of bird has become extinct in England from the use of the gun only. What causes their utter discomfiture is the alteration in the character of the land and water. The gun has no doubt helped, but if the eggs had not been taken, and the breeding places destroyed as well, it is truly astonishing how Nature will uphold itself against adversity. There is no doubt as it is, unless we were indebted to other countries, many of our birds would be totally absent, and even some of our common kind would be comparatively rare. It is only wonderful how the requisite stock is kept up, for instance the Redshank at suitable places keeps common in spite of its eggs being gathered unmercifully, and that the Pewit has not been reduced to a scarce bird is truly astonishing. However we naturalists must regret the birds we know that the country is improved and made more healthy to dwell in, and the population thrive better, and we have the consolation to consider that although driven from our shores the probability is they have only receded to other fens and marshes suitable to their nature, and

from the unbounded tracts of desolate country which still exist in various continental countries we may rest assured that there are still plenty of each species, and that there is not the slightest prospect of their annihilation for many long generations still to come. It is a consolation also to consider that I think all the species which have ceased to breed with us were migratory, and that they were not actually killed off, but on their coming to their former accustomed places at first, and finding them not suitable, from the altered state of the ground, during future migrations they have not returned; but with the great powers of locomotion Nature has given them they have gone further away till they succeeded in finding places suitable to their acquirements, plenty of which will remain for them in other countries probably for ever, as there are there probably thousands of square miles which are out of man's power to improve.

From the number of books one has now the opportunity of reading, it seems curious to observe how differently migratory species affect different places on the coast of England even. A few miles off a species is not seen, though at another place its periodical visits are regular; and at some places a species is more common in spring, whilst not far off it is commoner in autumn. This shows how very regular the migratory flights often are. Generally in some species (and yet even in those species) the quantities vary much in different seasons, and of course the most abundant season can only show a very limited number of the species. Judging from the enormous tracts of country in which species are generally found one can easily fancy a general migration where a huge flight passes over a country, and during the migration is generally distributed, but it puzzles one to find a sort of migration periodical, but which only produces few individuals, and those at wide intervals, in a large tract of country, and where the few that do appear year after year come to or very near the same distance within a few miles, and are not found at all except at places far distant, from where these few alight annually, not the same individuals, but only some of a similar age as those which appeared before.

## NATURAL HISTORY NOTES ABOUT BURMAH.

Anyone who has looked over my book so far will have ascertained I have a son in Burmah, and as he has travelled over a considerable portion of the country not often seen by Europeans, which is that portion bordering on Siam, and as he has sent me a large collection of butterflies, and often written letters giving an account of their capture, and sometimes mentioning birds met with, I make these few remarks.

In a letter dated January 4, 1880, Taylay, near Meetagit, amongst the Karen Hills, he writes "I shot yesterday two of the smaller kind of Hornbill, which was very abundant; the large species too was plentiful, but none came within shot; one of my men has shot a very fine adult Hornbill (the large sort), with a fully-developed protuberance, and in the village they have a tame one, it was taken out of its nest in a hole of a tree about ten months ago. It has not yet got any protuberance on its beak, and has none of the bright yellow colour of the adult bird. It is perfectly tame, and is fed on boiled rice and plantains. It has its wings quite perfect, and flies about as it likes. It comes when called, and always sleeps on a high tree above the house of its owner. It was offered to me, but I knew if I had it it would soon be shot, whereas here it is well known, and no one would shoot it. It puts me much in mind of a tame Cormorant." He adds Taylay is about the most out-of-the-way village in Burmah, close to the Siamese frontier. He adds after doing what business he had to do he went out to the stream to catch butterflies, as except at the streams there are hardly any to be seen, and he was fortunate enough to catch a lovely *Papilio Zaleucus*, and that in two days he had made considerable additions to his collection, particularly two large dark-coloured butterflies with large blue spots on the upper wings. He writes—"These I caught on two successive mornings before the sun was up. As I was dressing they came flying about the ground in front of my tent, and each morning I caught one; I have never

seen them before. No other butterflies were flying at that early hour, and I first thought they must be large moths." These are like *Amathusia Aureleus* of Hewitson, but they have no blue on the under wings.

In another letter dated Klinebway, Feb., 1881, he says he is on his way back from the frontier, and that except on two days he caught few butterflies, but on those days one in going to the frontier and the other on his return, at a place called Tounggya Sekkan, or "the resting place in the valley," he was rewarded for his non-success on other days, and that he had added a number of species to his collection he had not seen before, amongst which is a small *Charaxes*, which pleased him. At this place he halted for three hours—he saw a *Charaxes Eudamippus*, but could not catch it. *Cyrestis Thyodamas* and another closely-allied species were in swarms, they and a brown butterfly (*Cirrochroa aoris*) covered the stones and sandy places on the stream. In this valley the butterflies were as plentiful as he once before saw them at Phapoon, they literally swarmed. He sat down on a sunny sandbank where the road crosses the stream. Bees and butterflies were fighting for the places to light on. There was something in the sand that caused them to swarm like moths at a sugared tree. He sat down and lifted those he wanted out of the flock without disturbing the others. It was very easy work and a most wonderful sight to see. If frightened from the place they returned at once, and he saw lots of them snapped up where they rested by lizards. They invariably rested with their heads in the same direction, and sometimes looked like a miniature regiment of soldiers on the sand. The small *Charaxes* before alluded to he says he spent half an hour trying to catch it on a large sandbank in the bed of the Mayplay river, it flies just like a *Sphinx*, but at last after many failures he managed to get his net over it on the ground.

He says marching day after day is trying work. The nights are pleasant and cool, but in the daytime the sun is very hot, and where there is no shade on the plains it is very tiring walking. No birds or butterflies are to be seen on the plains, which

are all dried up at present, and it is only when one comes to a stream where the water is not yet dried up that insects and birds abound, and that one can halt and get a drink of delicious cold water.

Amongst the butterflies he met with are many *Ornithoptera*, large black and yellow insects, varying much in size and also in shape, particularly the males. He sent the following *Papilio*s that I can trace besides others which I cannot:—*Zaleucus* (three males and one female), *Memnon* (many males and females, with and without swallow-tailed under-wings), *Philoxenus*, *Helenus*, *Severus*, *Pammon* (both varieties), *Polidorus*, *Coon*, *Palinurus*, *Demolion*, *Paris*, *Eurypilus*, *Sarpedon*, *Agamemnon*, *Erithroneus*, *Aristæus*, *Antiphates*, *Zenocles*, *Dissimilis*, a lovely species equally like *Philoxenus* and *Polidorus*, one like *Eurypilus*, but with orange spots on underside under wing; one like *Slateri* of Hewitson, but with a blue spot on the upper wing and a row of white spots on the underwing; several like *Zenocles*, but smaller and without the orange spot on the under wing, and which he says were common at one place only; and a lovely species something like *Antiphates*, much more delicate in appearance, with fewer marks on wings, but with a scarlet mark on the under wings, many *Leptocircus* of different sizes. He has sent many whites with lovely undersides, three species with black and yellow only, three more also with red, including *Glaucippe* and *Gonipteryx Verhuellii*; many species of *Euplexa*; several species of *Cyrestis Risa* (two varieties), *Thyodamas*, *Periander Cocles*, and another; many species of *Neptis*, *Athyma* and *Lemenites*, *Minetra Sylvia*, *Euripus halitherses* and *nama*, *Herona Marathus*, several species of *Charaxes*, *Delphis*, *Athamas*, and one allied, *Eudamippus*, *Polyxena* (two varieties), and the small one before alluded to, which has lemon-coloured spots on the upper side; several species of *Adolias*, *Amathusia Aurelius*, and *Phidippus*; two species of *Kallima*, *Clerome Arcesilaus*, *Celites Epiminthia*, *Melanitis mehida*, *undularis*, *Lais*, and others; *Taxila Thuisto*, a species of *Ergolis*, a *Libythea*, a *Ragadia*, besides many other which I have not yet made out; a quantity of species of Blues and

*Skippers and Satyrida*. One thing which puzzled him was finding a dark *Mameon* and a spotted *Ornithoptera* together.

Mr. Hancock very kindly gave me a copy of the Catalogue of Mr. Hewitson's Collection of Butterflies which he bequeathed to the British Museum, and it has been a great help to me in naming the collection so far as I have yet gone.

My son also sent some very long-legged *Longicorn* beetles, some of which he caught from the back of an elephant when travelling in the jungles, the insects flying about the leaves of the trees and sometimes coming within reach of his net. Many of the beetles he has sent are not of very striking appearance.

12th April, 1879.—In his letter he says "I found a number of *Pratincoles* (Jerdon, No. 848) breeding on a sandy island in the river Salween. The sandbank was about a mile long and four hundred yards broad, and I should think there must have been one hundred couples of these birds flying about and feigning lameness exactly like *Pewits*. Though I looked closely I only found one egg in a nest, the egg was quite fresh and laid merely in a little round hole in the sand, without any attempt whatever of a nest. I saw several of these holes about, and I found one or two broken eggs, from which the young had evidently been hatched. They are most curious birds, and when flying sometimes look like *Sandpipers*, and at others more like diminutive *Terns*, and when on the ground, except for their length, look more like *Ring Dotterels* than anything else. I shot one, and was surprised to see its large *Swallow-like* mouth. The egg I found was in size and character something like a *Dunlin's*, though perhaps a little smaller. I only say this from memory. In the evening I saw numbers of these birds hawking about on the surface of the river, and then they looked like *Nightjars*. They remained flying till it was quite dark." He afterwards sent me the egg, which I now have.

I print these straggling notes respecting migratory birds as they may perhaps enable some one at some time hereafter to try to trace the migration of birds.

A careful lookout kept during the whole of July and not a single Sandpiper seen.

August 3.—Two birds size of Redshanks flew over the first seen, species not identified. On same day saw several Bitterns, dark, with beautiful buff stripe from the gape to the back of the head. These are the first of the autumn birds seen.

Common Sandpipers first seen 6th August. Saw one, then two, and then one again on same day. Certain none were in neighbourhood in June and July.

No Snipes seen yet, but a friend saw two yesterday. Last year he saw first 25th August, but then they were plentiful (Pintails).

Jany. 22nd.—Snipe, Wood and Green Sandpipers, Common and Golden Plovers (probably the Asiatic species). He saw hundreds of Sand Martins flying in and out of holes at the river side.

April 12th.—Saw about twenty Snipes and shot four, two Pintail and two Common. Did not see one Sand Martin, those seen breeding in December have all left. Snipes (both kinds) still about, but in poor condition.

THE END.







